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ABSTRACT

This study of Law School Admission Test (LSAT) performance by selected subgroups has been conducted to provide some baseline information that can later be referenced in a variety of projects and activities. The study provides a detailed psychometric analysis, by selected gender and ethnic subgroup membership, of LSAT Form OLSS1. This form was administered to approximately 42,000 test takers in September 1989. The data for these analyses are drawn from the test data of the first 95% of the answer sheets that were scanned and scored. Test performance is summarized as measured by total scaled LSAT score, section score, reliability, item difficulty, item discrimination, and response/omit patterns. Data are presented separately for males and females and for Asian American, Black/Afro-American, Caucasian, Hispanic, Mexican American, and Puerto Rican test takers. Overall, the data confirm the poorer performance of minority LSAT takers with compared with Caucasian test takes and confirm the fairly equal performance by male and female test takers. (Contains 23 tables and 9 figures.) (SLD)

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# Comparison of LSAT Performance Among Selected Subgroups

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**Law School Admission Council**
**Statistical Report 90-01**
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## Comparison of LSAT Performance Among Selected Subgroups

This study of LSAT performance by selected subgroups has been conducted to provide some baseline information that can later be referenced in a variety of projects and activities, including test development, score-use guidelines, and gender and minority research studies. The study provides a detailed psychometric analysis, by selected gender and ethnic subgroup membership, of LSAT Form OLSS1. This form was administered to approximately 42,000 test takers in September 1989. The data used in this study are drawn from the test data of the first 95 percent of the answer sheets that were scanned and scored. Test performance as measured not only by total scaled LSAT score, but also by section score, reliability, item difficulty, item discrimination, and response/omit patterns are summarized in this report. Data are presented separately for males and females and for Asian American, Black/Afro-American, Caucasian, Hispanic, Mexican American, and Puerto Rican test takers.

Form OLSS1 includes four 45-minute sections. Three of the sections count towards the test taker's score. The fourth section is a variable section that would have contained pretest or preequating items from any one of the three item types. The operational sections are comprised of the following item types:

| Item Type | Number of Items | Time |
|---|---|---|
| Analytical Reasoning | 29 | 45 minutes |
| Reading Comprehension | 33* | 45 minutes |
| Logical Reasoning | 33 | 45 minutes |

* Item 2 from the Reading Comprehension section was eliminated from scoring.

### Score Information

Of the total group of 40,027 test takers, 54 percent are male and 44 percent are female. About 4.2 percent of this group are Asian American; 5.5 percent, Black/Afro-American; 78.8 percent, Caucasian; 2.2 percent, Hispanic; 1.1 percent, Mexican American; and 0.6 percent, Puerto Rican. A cross-tabulation of ethnic group by gender for the September 1989 test-taking population is presented in Table 1.

The data in this table show that the ratio of 54 percent male to 44 percent female is dominated by the ratio for Caucasian test takers. The most strikingly different subgroup is Black/Afro-American, where almost 60 percent of the test takers are female. The distribution of ethnic and gender subgroups is consistent with that observed in the previous October administration. A slightly higher percentage of black test takers is represented in the December and February administrations. Comparative distribution data for consecutive administrations beginning June 1988 are shown in Table 2. Scaled score means and standard deviations for Form OLSS1 by subgroup are shown in Table 3.

Males scored approximately one scaled score-point higher than females on this test form. This score difference is statistically significant at the 5 percent level of confidence. The statistical significance is primarily a consequence of the large sample size, but it is worth noting this observed difference is about a half score point larger than has been observed in recent years. Consistent with previous test data, Caucasian test takers outperform test takers from other ethnic subgroups on Form OLSS1. Asian American test takers perform nearly as well as their Caucasian peers, and Black/Afro-American test takers show the poorest performance.

Perhaps of more interest than total score performance differences are section score performance data. Raw-score means and standard deviations are shown in Table 4, separately for each of the three LSAT sections, and for each of the gender and ethnic subgroups. Males and females perform nearly identically on the Analytical Reasoning section, and most discrepantly on Reading Comprehension.

These data should be interpreted recognizing that they are slightly confounded by the discrepant proportion of minority representation within the gender subgroups. Regardless, the percentage of Caucasian test takers is clearly dominant in each group so that the impact of the confounding should be minimal.

Most immediately obvious from the data in Table 4 is that, overall, the minority groups have significantly lower means than the Caucasian group in every test section as well as on the total test, with one exception. Among all subgroups, Asian American test takers show the highest mean score on the Analytical Reasoning section. The Logical Reasoning section tends to be the easiest among the three for all subgroups except Asian Americans. Most subgroups find Analytical Reasoning to be the most difficult, although this is not the case for Asian Americans, as noted earlier. Female test takers also score better on the Analytical Reasoning than the Reading Comprehension sections. Because the number of items differs on the different sections, this comparison is more easily made by looking at the percentage of items answered correctly. Percentage data are shown in Table 5.

The data in Table 5 also provide insight into the measurement efficiency of this form for the different groups. Maximum information about ability is obtained from a middle-difficulty test, where middle

difficulty is defined as a test on which test takers know the answers to half the questions and guess at the other half.

On a rights-scored test like the LSAT, if the test is of middle difficulty, test takers would be expected to answer 60 percent of the questions correctly. That is, they would know the answers to 50 percent and guess at the other 50 percent. Given that each item has five possible responses, by chance alone, test takers would guess correctly on 20 percent, resulting in [50% + (20% of 50%)] or 60%. The data suggest that the test is somewhat easier than middle difficulty for Caucasians, but considerably harder than middle difficulty for some minority subgroups. Most striking is the performance by Black/Afro-Americans on the Analytical Reasoning section. The section is considerably more difficult than middle difficulty, evidenced by the 45 percent mean correct. The magnitude of the differences in these scores might be more readily interpretable by observing the proportion of one group that exceeds the average of the other group.

A most appropriate reference point for this procedure is the median, the point on the score scale that is exceeded by 50 percent of the group. For each section and for the total raw score, the median males' scores and the percent of females above that median, as well as the median females' scores and the percent

## Table 1

**Number and Percentage of Test Takers by Gender and Ethnic Subgroup**

Percentage by Gender

| | Gender | | | | | | |
|---|---|---|---|---|---|---|---|
| | Male | | Female | | No Response | | |
| Ethnic Subgroup | N | % | N | % | N | % | Total |
| American Indian | 83 | 51.2 | 79 | 48.8 | 0 | 0.0 | 162 |
| Asian/Pacific Islander | 864 | 51.2 | 823 | 48.8 | 0 | 0.0 | 1687 |
| Black/Afro-American | 886 | 40.6 | 1293 | 59.2 | 4 | 0.2 | 2183 |
| Canadian Aborginal | 17 | 44.7 | 20 | 52.6 | 1 | 2.6 | 38 |
| Caucasian | 17650 | 56.0 | 13867 | 44.0 | 22 | 0.1 | 31539 |
| Hispanic | 467 | 53.9 | 398 | 46.0 | 1 | 0.1 | 866 |
| Puerto Rican | 116 | 48.1 | 125 | 51.9 | 0 | 0.0 | 241 |
| Mexican American | 252 | 56.6 | 193 | 43.4 | 0 | 0.0 | 445 |
| Other | 342 | 58.4 | 239 | 40.8 | 5 | 0.9 | 586 |
| No Response | 823 | 36.1 | 525 | 23.0 | 932 | 40.9 | 2280 |
| **Total** | 21500 | 53.7 | 17562 | 43.9 | 965 | 2.4 | 40027 |

Percentage by Ethnic Subgroup

| | Gender | | | | | | |
|---|---|---|---|---|---|---|---|
| | Male | | Female | | No Response | | |
| Ethnic Subgroup | N | % | N | % | N | % | Total |
| American Indian | 83 | 0.4 | 79 | 0.4 | 0 | 0.0 | 162 |
| Asian/Pacific Islander | 864 | 4.0 | 823 | 4.7 | 0 | 0.0 | 1687 |
| Black/Afro-American | 886 | 4.1 | 1293 | 7.4 | 4 | 0.4 | 2183 |
| Canadian Aborginal | 17 | 0.1 | 20 | 0.1 | 1 | 0.1 | 38 |
| Caucasian | 17650 | 82.1 | 13867 | 79.0 | 22 | 2.3 | 31539 |
| Hispanic | 467 | 2.2 | 398 | 2.3 | 1 | 0.1 | 866 |
| Puerto Rican | 116 | 0.5 | 125 | 0.7 | 0 | 0.0 | 241 |
| Mexican American | 252 | 1.2 | 193 | 1.1 | 0 | 0.0 | 445 |
| Other | 342 | 1.6 | 239 | 1.4 | 5 | 0.5 | 586 |
| No Response | 823 | 3.8 | 525 | 3.0 | 932 | 96.6 | 2280 |
| **Total** | 21500 | 100.0 | 17562 | 100.0 | 965 | 100.0 | 40027 |

## Table 2

**Number of Test Takers by Gender, Ethnic Subgroup, and Administration (6/88-9/89)**

| | Date of Administration | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | June 1988 | | Oct. 1988 | | Dec. 1988 | | Feb. 1989 | | June 1989 | | Sept. 1989 | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| Total Group | 22454 | | 40173 | | 42247 | | 30408 | | 20706 | | 40027 | |
| Male | 12283 | 54.7 | 21509 | 53.5 | 23642 | 56.0 | 16555 | 54.4 | 11337 | 54.8 | 21500 | 53.7 |
| Female | 9545 | 42.5 | 17656 | 43.9 | 18567 | 43.9 | 12736 | 41.9 | 8869 | 42.8 | 17562 | 43.9 |
| Asian/Pacific Islander | 726 | 3.2 | 1612 | 4.0 | 1762 | 4.2 | 1056 | 3.5 | 669 | 3.2 | 1687 | 4.2 |
| Black/Afro-American | 1463 | 6.5 | 2195 | 5.5 | 3619 | 8.6 | 2750 | 9.0 | 1336 | 6.5 | 2183 | 5.5 |
| Caucasian | 18757 | 83.5 | 33647 | 83.8 | 33130 | 78.4 | 22377 | 73.6 | 16325 | 78.8 | 31539 | 78.8 |
| Hispanic | 404 | 1.8 | 872 | 2.2 | 1045 | 2.5 | 763 | 2.5 | 422 | 2.0 | 866 | 2.2 |
| Puerto Rican | 200 | 0.9 | 432 | 1.1 | 560 | 1.3 | 633 | 2.1 | 222 | 1.1 | 241 | 0.6 |
| Mexican American | 194 | 0.9 | 423 | 1.1 | 656 | 1.6 | 314 | 1.0 | 184 | 0.9 | 445 | 1.1 |
| Male: | | | | | | | | | | | | |
| Asian/Pacific Islander | 361 | 1.6 | 801 | 2.0 | 939 | 2.2 | 586 | 1.9 | 370 | 1.8 | 864 | 2.2 |
| Black/Afro-American | 682 | 3.0 | 924 | 2.3 | 1523 | 3.6 | 1161 | 3.8 | 605 | 2.9 | 886 | 2.2 |
| Caucasian | 10743 | 47.8 | 18810 | 46.8 | 19084 | 45.2 | 12696 | 41.8 | 9267 | 44.8 | 17650 | 44.1 |
| Hispanic | 224 | 1.0 | 436 | 1.1 | 569 | 1.3 | 423 | 1.4 | 217 | 1.0 | 467 | 1.2 |
| Puerto Rican | 115 | 0.5 | 213 | 0.5 | 269 | 0.6 | 306 | 1.0 | 132 | 0.6 | 116 | 0.3 |
| Mexican American | 117 | 0.5 | 232 | 0.6 | 393 | 0.9 | 170 | 0.6 | 108 | 0.5 | 252 | 0.6 |
| Female: | | | | | | | | | | | | |
| Asian/Pacific Islander | 365 | 1.6 | 811 | 2.0 | 823 | 1.9 | 450 | 1.5 | 298 | 1.4 | 823 | 2.1 |
| Black/Afro-American | 781 | 3.5 | 1271 | 3.2 | 2092 | 5.0 | 1487 | 4.9 | 730 | 3.5 | 1293 | 3.2 |
| Caucasian | 8014 | 35.7 | 14647 | 36.5 | 14016 | 33.2 | 9166 | 30.1 | 7049 | 34.0 | 13867 | 34.6 |
| Hispanic | 180 | 0.8 | 436 | 1.1 | 476 | 1.1 | 314 | 1.0 | 204 | 1.0 | 398 | 1.0 |
| Puerto Rican | -- | -- | 219 | 0.5 | 291 | 0.7 | 295 | 1.0 | -- | -- | 125 | 0.3 |
| Mexican American | -- | -- | 191 | 0.5 | 263 | 0.6 | 130 | 0.4 | -- | -- | 193 | 0.5 |

Notes. September 1989 data based on 95% of total test takers.

-- indicates N < 100.

## Table 3

**Scaled Score Means and Standard Deviations by Subgroup**

| Subgroup | N | LSAT Mean | LSAT SD |
|---|---|---|---|
| Male | 21500 | 32.87 | 8.11 |
| Female | 17562 | 31.95 | 8.06 |
| Asian/Pacific Islander | 1687 | 32.16 | 8.74 |
| Black/Afro-American | 2183 | 24.11 | 8.44 |
| Caucasian | 31539 | 33.33 | 7.54 |
| Hispanic | 866 | 28.68 | 8.68 |
| Puerto Rican | 241 | 25.68 | 9.73 |
| Mexican American | 445 | 27.89 | 8.56 |

of males' scores above the female median are shown in Table 6. The percentage of females who exceed the median scores for males ranges from 45.8 to 50.3.

The largest difference occurs in the Reading Comprehension section and this difference is also reflected in the total score. Similar comparisons can be made for ethnic subgroups. Table 7 shows the median score for Caucasians and the percentage of each of the ethnic subgroups that exceeded that median.

Estimates of the reliability of the section scores and of the total scores for each of the subgroups are presented in Table 8. Estimates of the reliability of the section scores are computed using the Kuder-Richardson formula (20). The total score reliability is computed using the composite-score formula,

$$\text{reliability} = 1 - \frac{\Sigma\,(\text{section error variances})}{\text{total score variance}}\ .$$

Small differences in reliability among subgroups are seen in the data in Table 8.

Reliability coefficients tend to vary with the heterogeneity of the groups on which they are based. If the differences in the reliability coefficients are attributed mainly to the variability of the groups, then the associated standard errors of measurement would be expected to be about the same. The standard errors of measurement for the section scores and for the total score are listed in Table 9, sepa-

## Table 4

**Means and Standard Deviations for Section and Total Scores by Subgroup**

| Subgroup | | Analytical Reasoning | Reading Comprehension | Logical Reasoning | LSAT Raw Score | LSAT Scaled Score |
|---|---|---|---|---|---|---|
| Male | M | 17.97 | 20.76 | 22.00 | 60.73 | 32.87 |
| N = 21500 | SD | 5.62 | 5.06 | 5.12 | 13.42 | 8.11 |
| Female | M | 17.99 | 19.59 | 21.68 | 59.25 | 31.95 |
| N = 17562 | SD | 5.56 | 4.92 | 4.96 | 13.14 | 8.06 |
| Asian/Pacific Islander | M | 18.83 | 19.78 | 20.38 | 58.59 | 32.16 |
| N = 1687 | SD | 5.63 | 5.31 | 5.54 | 14.39 | 8.74 |
| Black/Afro-American | M | 12.90 | 16.23 | 17.64 | 46.78 | 24.11 |
| N = 2183 | SD | 5.24 | 5.05 | 5.13 | 13.35 | 8.44 |
| Caucasian | M | 18.45 | 20.66 | 22.34 | 61.46 | 33.33 |
| N = 31539 | SD | 5.38 | 4.82 | 4.79 | 12.47 | 7.54 |
| Hispanic | M | 15.91 | 18.33 | 19.69 | 53.94 | 28.68 |
| N = 866 | SD | 5.73 | 5.26 | 5.44 | 14.06 | 8.68 |
| Puerto Rican | M | 14.25 | 16.76 | 18.13 | 49.14 | 25.68 |
| N = 241 | SD | 6.02 | 5.87 | 5.91 | 15.81 | 9.73 |
| Mexican American | M | 15.19 | 18.25 | 19.30 | 52.74 | 27.89 |
| N = 445 | SD | 5.43 | 5.17 | 5.29 | 13.69 | 8.56 |

## Table 5

**Percent Correct by Subgroup for Each Section**

| Subgroup | Analytical Reasoning | Reading Comprehension | Logical Reasoning |
|---|---|---|---|
| Male | 62 | 63 | 67 |
| Female | 62 | 59 | 66 |
| Asian/Pacific Islander | 65 | 60 | 64 |
| Black/Afro-American | 45 | 49 | 53 |
| Caucasian | 64 | 63 | 68 |
| Hispanic | 55 | 56 | 60 |
| Puerto Rican | 49 | 51 | 55 |
| Mexican American | 52 | 55 | 59 |

rately for each subgroup. Most of the differences are small and not important. The differences of .11 for Caucasians and Black/Afro-Americans on the Analytical Reasoning section and .13 on the Logical Reasoning section are somewhat larger and suggest that these sections might be slightly more accurate for Caucasian test takers than for Black/Afro-American test takers. This result is consistent with and related to the higher level of difficulty of these two sections for Black/Afro-American test takers. The intercorrelations among subscores and total score are presented in Table 10. The section intercorrelations produced using data from male test takers are almost identical to those produced using data from female test takers. The Caucasian group shows lower section intercorrelations than did the other ethnic subgroups. This is expected because the Caucasian group is more homogeneous. That

## Table 6

**Male/Female Median Comparison**

| Item Type | Male Median | % of Female above Male Median | Female Median | % of Male above Female Median |
|---|---|---|---|---|
| Analytical Reasoning | 18.07 | 50.3 | 18.16 | 49.7 |
| Reading Comprehension | 21.08 | 40.0 | 19.78 | 59.9 |
| Logical Reasoning | 22.43 | 46.8 | 22.01 | 53.0 |
| LSAT Raw Score | 61.48 | 45.8 | 59.99 | 54.5 |

## Table 7

**Ethnic Subgroup Median Comparisons**

| Item Type | Caucasian Median | % of Asian above Caucasian Median | % of Black/A-A above Caucasian Median | % of Hispanic above Caucasian Median | % of Puerto Rican above Caucasian Median | % of Mex. Am. above Caucasian Median |
|---|---|---|---|---|---|---|
| Analytical Reasoning | 18.55 | 54.03 | 14.85 | 37.67 | 23.02 | 27.59 |
| Reading Comprehension | 20.87 | 45.64 | 18.76 | 32.21 | 26.99 | 32.39 |
| Logical Reasoning | 22.68 | 42.70 | 17.20 | 29.78 | 26.29 | 25.01 |
| LSAT Raw Score | 61.94 | 48.07 | 14.49 | 30.22 | 22.74 | 27.22 |

## Table 8

**Reliability of Section Scores and Total Raw Score by Subgroup**

| Subgroup | Analytical Reasoning | Reading Comprehension | Logical Reasoning | LSAT Raw |
|---|---|---|---|---|
| Male | 0.84 | 0.75 | 0.77 | 0.90 |
| Female | 0.83 | 0.72 | 0.75 | 0.90 |
| Asian/Pacific Islander | 0.85 | 0.77 | 0.80 | 0.92 |
| Black/Afro-American | 0.80 | 0.73 | 0.75 | 0.89 |
| Caucasian | 0.82 | 0.72 | 0.74 | 0.89 |
| Hispanic | 0.83 | 0.75 | 0.78 | 0.91 |
| Puerto Rican | 0.85 | 0.81 | 0.81 | 0.93 |
| Mexican American | 0.81 | 0.74 | 0.77 | 0.90 |

is, it exhibits less score variation than the other subgroups. All of these statistics are a function of the amount of observed variance within the group. Although they are consistent, they are not large enough to be of great importance, with the likely exception of the value of extensive diagnostic analysis to identify specific weakness or areas of lack of preparedness.

### Speededness Data

Data on speededness are presented in several formats. Table 11 shows the average number of right, wrong, omitted, and not reached items, by subgroup, for each section and for the total test. The mean numbers right shown in Table 11 are the same as the section and total score means shown in Table 4.

Of particular interest in this table are the number of omitted and the number of not reached items. When a test is scored rights only, that is, no penalty for incorrect answers, the number of omitted and not reached items is typically close to zero. The mean number omitted is larger for Analytical Reasoning items than for the other item types for all subgroups. The mean number omitted is larger for the Black/Afro-American and Puerto Rican subgroups than for any other subgroup. But even for those groups the mean is less than one item in each section.

The mean number of not reached items is highest for the Reading Comprehension section for all subgroups and the data suggest that this section is slightly speeded. The largest not reached mean is obtained by the black and Puerto Rican subgroups, suggesting that each of the sections is slightly speeded for these groups. The largest discrepancy in not reached items among the ethnic subgroups is observed in the Analytical Reasoning section.

Tables 12 through 14 show the percentage of test takers in each subgroup not reaching each item in the Reading Comprehension, Analytical Reasoning, and Logical Reasoning sections, respectively.

In general, a test section is not considered speeded if over 90 percent complete it. Over 90 percent of test takers from all subgroups except blacks and Puerto Ricans complete each section of the test. These data also confirm that the sections are differentially speeded by subgroup and that they are moderately speeded for Black/Afro-American and Puerto Rican test takers.

Figures 1 through 3 provide a graphic presentation of the data in Tables 12 through 14. If the sections are not speeded, the plots of percentage not reaching each item would be fairly flat across the horizontal axis. These figures show a sharp increase in percentage not reaching the final items in each section. Evidence of speededness is particularly dramatic for members of the black, Puerto Rican, and Hispanic subgroups. The evidence of speededness found in the data shown in the tables and figures in this section is a minimum estimate of the speededness of these sections because there is no penalty for guessing and, indeed, test takers are encouraged to guess rather than leave test questions unanswered. At least some percentage of the test takers who appear to have reached items at the end of these sections do not actually attempt the items, but rather simply guess at random.

### Item Information

Two item statistics are typically examined when a test form is analyzed. One is a measure of the item difficulty, usually reported as the p+, the percentage of test takers answering the item correctly, or the delta, a linear transformation of the p+. The other is a measure of item discrimination, usually reported as the biserial correlation between item response and total on some criterion score, such as the number correct on the section of the same item type.

## Table 9

**Standard Errors of Measurement for Section Scores and Total Scores by Subgroup**

| Subgroup | Analytical Reasoning | Reading Comprehension | Logical Reasoning | LSAT Raw |
|---|---|---|---|---|
| Male | 2.27 | 2.53 | 2.45 | 4.19 |
| Female | 2.26 | 2.58 | 2.46 | 4.22 |
| Asian/Pacific Islander | 2.21 | 2.55 | 2.48 | 4.19 |
| Black/Afro-American | 2.37 | 2.64 | 2.57 | 4.38 |
| Caucasian | 2.26 | 2.55 | 2.44 | 4.18 |
| Hispanic | 2.33 | 2.60 | 2.53 | 4.31 |
| Puerto Rican | 2.31 | 2.58 | 2.57 | 4.31 |
| Mexican American | 2.34 | 2.62 | 2.56 | 4.34 |

## Table 10

**Intercorrelations Among Subscores and Total Score by Subgroup**

| Male | | AR | RC | LR | Total |
|---|---|---|---|---|---|
| | AR | 1.0000 | | | |
| | RC | 0.4924 | 1.0000 | | |
| | LR | 0.5852 | 0.6737 | 1.0000 | |
| | Total | 0.8279 | 0.8404 | 0.8810 | 1.0000 |

| Female | | AR | RC | LR | Total |
|---|---|---|---|---|---|
| | AR | 1.0000 | | | |
| | RC | 0.4945 | 1.0000 | | |
| | LR | 0.5993 | 0.6732 | 1.0000 | |
| | Total | 0.8331 | 0.8366 | 0.8837 | 1.0000 |

| Asian/Pacific Islander | | AR | RC | LR | Total |
|---|---|---|---|---|---|
| | AR | 1.0000 | | | |
| | RC | 0.5683 | 1.0000 | | |
| | LR | 0.6546 | 0.7065 | 1.0000 | |
| | Total | 0.8532 | 0.8636 | 0.9022 | 1.0000 |

| Black/Afro-American | | AR | RC | LR | Total |
|---|---|---|---|---|---|
| | AR | 1.0000 | | | |
| | RC | 0.5621 | 1.0000 | | |
| | LR | 0.6381 | 0.6693 | 1.0000 | |
| | Total | 0.8507 | 0.8567 | 0.8885 | 1.0000 |

| Caucasian | | AR | RC | LR | Total |
|---|---|---|---|---|---|
| | AR | 1.0000 | | | |
| | RC | 0.4468 | 1.0000 | | |
| | LR | 0.5512 | 0.6305 | 1.0000 | |
| | Total | 0.8150 | 0.8206 | 0.8648 | 1.0000 |

| Hispanic | | AR | RC | LR | Total |
|---|---|---|---|---|---|
| | AR | 1.0000 | | | |
| | RC | 0.5382 | 1.0000 | | |
| | LR | 0.5986 | 0.6664 | 1.0000 | |
| | Total | 0.8399 | 0.8505 | 0.8797 | 1.0000 |

| Puerto Rican | | AR | RC | LR | Total |
|---|---|---|---|---|---|
| | AR | 1.0000 | | | |
| | RC | 0.6525 | 1.0000 | | |
| | LR | 0.6497 | 0.7524 | 1.0000 | |
| | Total | 0.8656 | 0.9006 | 0.9001 | 1.0000 |

| Mexican American | | AR | RC | LR | Total |
|---|---|---|---|---|---|
| | AR | 1.0000 | | | |
| | RC | 0.5294 | 1.0000 | | |
| | LR | 0.6443 | 0.6697 | 1.0000 | |
| | Total | 0.8453 | 0.8460 | 0.8944 | 1.0000 |

## Table 11

**Response Pattern Data by Operational Section and Subgroup**

| | Rights | | Wrongs | | Omits | | Not Reached | |
|---|---|---|---|---|---|---|---|---|
| Section/Subgroup | Mean | SD | Mean | SD | Mean | SD | Mean | SD |
| Analytical Reasoning: | | | | | | | | |
| Male | 17.97 | 5.62 | 11.03 | 5.62 | 0.20 | 0.91 | 0.17 | 1.12 |
| Female | 17.99 | 5.56 | 11.01 | 5.56 | 0.24 | 1.02 | 0.26 | 1.34 |
| Asian/Pacific Islander | 18.83 | 5.63 | 10.17 | 5.63 | 0.21 | 0.84 | 0.18 | 1.11 |
| Black/Afro-American | 12.90 | 5.24 | 16.10 | 5.24 | 0.40 | 1.42 | 0.64 | 2.24 |
| Caucasian | 18.45 | 5.38 | 10.55 | 5.38 | 0.20 | 0.90 | 0.18 | 1.10 |
| Hispanic | 15.91 | 5.73 | 13.09 | 5.73 | 0.29 | 1.15 | 0.21 | 1.09 |
| Puerto Rican | 14.25 | 6.03 | 14.75 | 6.03 | 0.46 | 1.58 | 0.66 | 2.35 |
| Mexican American | 15.19 | 5.44 | 13.81 | 5.44 | 0.26 | 1.27 | 0.36 | 1.51 |
| Reading Comprehension: | | | | | | | | |
| Male | 20.76 | 5.06 | 12.25 | 5.06 | 0.06 | 0.42 | 0.26 | 2.36 |
| Female | 19.59 | 4.92 | 13.41 | 4.92 | 0.10 | 0.58 | 0.26 | 1.82 |
| Asian/Pacific Islander | 19.78 | 5.31 | 13.22 | 5.19 | 0.08 | 0.39 | 0.31 | 2.37 |
| Black/Afro-American | 16.23 | 5.05 | 16.77 | 5.06 | 0.20 | 0.95 | 0.64 | 2.46 |
| Caucasian | 20.66 | 4.82 | 12.34 | 4.82 | 0.07 | 0.41 | 0.22 | 2.04 |
| Hispanic | 18.33 | 5.26 | 14.68 | 5.26 | 0.10 | 0.53 | 0.38 | 2.56 |
| Puerto Rican | 16.76 | 5.87 | 16.25 | 5.88 | 0.17 | 0.95 | 0.51 | 2.21 |
| Mexican American | 18.25 | 5.17 | 14.75 | 5.17 | 0.09 | 0.54 | 0.38 | 2.56 |
| Logical Reasoning: | | | | | | | | |
| Male | 22.00 | 5.12 | 11.00 | 5.12 | 0.06 | 0.40 | 0.24 | 2.23 |
| Female | 21.68 | 4.96 | 11.33 | 4.96 | 0.06 | 0.41 | 0.17 | 1.62 |
| Asian/Pacific Islander | 20.98 | 5.54 | 12.02 | 5.54 | 0.10 | 0.62 | 0.23 | 2.20 |
| Black/Afro-American | 17.64 | 5.13 | 15.36 | 5.14 | 0.14 | 0.85 | 0.41 | 2.03 |
| Caucasian | 22.34 | 4.79 | 10.66 | 4.79 | 0.05 | 0.35 | 0.18 | 1.91 |
| Hispanic | 19.69 | 5.44 | 13.31 | 5.44 | 0.09 | 0.49 | 0.30 | 2.58 |
| Puerto Rican | 18.13 | 5.91 | 14.87 | 5.92 | 0.14 | 0.55 | 0.40 | 2.51 |
| Mexican American | 19.30 | 5.29 | 13.70 | 5.29 | 0.08 | 0.39 | 0.30 | 2.33 |
| LSAT Total: | | | | | | | | |
| Male | 60.73 | 13.42 | 34.27 | 13.42 | 0.32 | 1.27 | 0.67 | 4.95 |
| Female | 59.25 | 13.14 | 35.75 | 13.14 | 0.40 | 1.51 | 0.69 | 3.91 |
| Asian/Pacific Islander | 59.59 | 14.39 | 35.41 | 14.39 | 0.39 | 1.34 | 0.71 | 4.88 |
| Black/Afro-American | 46.78 | 13.35 | 48.22 | 13.35 | 0.74 | 2.40 | 1.69 | 5.62 |
| Caucasian | 61.46 | 12.47 | 33.54 | 12.47 | 0.32 | 1.22 | 0.58 | 4.29 |
| Hispanic | 53.94 | 14.06 | 41.06 | 14.07 | 0.49 | 1.62 | 0.86 | 5.40 |
| Puerto Rican | 49.14 | 15.81 | 45.86 | 15.84 | 0.77 | 2.25 | 1.58 | 5.76 |
| Mexican American | 52.74 | 13.69 | 42.26 | 13.71 | 0.43 | 1.57 | 1.04 | 5.37 |

## Table 12

**Percentage Not Reaching Each Item by Subgroup for Analytical Reasoning**

| Item | Gender | | Ethnic Subgroup | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Black | White | Hispanic | Puerto Rican | Mexican American | Asian |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 | 0.02 | 0.01 | 0.05 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.02 | 0.02 | 0.05 | 0.02 | 0.00 | 0.41 | 0.00 | 0.00 |
| 11 | 0.02 | 0.02 | 0.09 | 0.02 | 0.00 | 0.41 | 0.00 | 0.00 |
| 12 | 0.04 | 0.03 | 0.09 | 0.02 | 0.00 | 0.41 | 0.00 | 0.06 |
| 13 | 0.05 | 0.04 | 0.14 | 0.03 | 0.00 | 0.41 | 0.00 | 0.06 |
| 14 | 0.07 | 0.04 | 0.14 | 0.04 | 0.00 | 0.83 | 0.00 | 0.06 |
| 15 | 0.09 | 0.06 | 0.18 | 0.06 | 0.00 | 0.83 | 0.00 | 0.06 |
| 16 | 0.12 | 0.10 | 0.50 | 0.07 | 0.00 | 0.83 | 0.00 | 0.06 |
| 17 | 0.15 | 0.14 | 0.64 | 0.10 | 0.12 | 1.24 | 0.00 | 0.06 |
| 18 | 0.25 | 0.38 | 1.42 | 0.23 | 0.12 | 1.24 | 0.22 | 0.30 |
| 19 | 0.33 | 0.55 | 1.79 | 0.33 | 0.23 | 1.24 | 0.90 | 0.36 |
| 20 | 0.42 | 0.66 | 2.20 | 0.41 | 0.35 | 1.24 | 1.12 | 0.53 |
| 21 | 0.53 | 0.78 | 2.61 | 0.49 | 0.69 | 2.07 | 1.12 | 0.53 |
| 22 | 0.67 | 0.97 | 2.93 | 0.64 | 0.69 | 2.07 | 1.80 | 0.65 |
| 23 | 0.76 | 1.13 | 3.25 | 0.75 | 0.81 | 2.49 | 1.80 | 0.83 |
| 24 | 1.00 | 1.67 | 4.49 | 1.06 | 1.15 | 4.56 | 2.47 | 1.01 |
| 25 | 1.15 | 1.98 | 5.22 | 1.24 | 1.62 | 4.56 | 2.70 | 1.24 |
| 26 | 1.50 | 2.45 | 6.50 | 1.58 | 1.73 | 6.22 | 3.37 | 1.48 |
| 27 | 1.87 | 3.05 | 7.60 | 1.99 | 2.31 | 7.47 | 3.82 | 2.02 |
| 28 | 2.55 | 4.01 | 8.89 | 2.70 | 3.35 | 9.13 | 6.29 | 3.08 |
| 29 | 4.54 | 6.24 | 11.86 | 4.75 | 5.31 | 12.45 | 8.76 | 4.80 |

## Table 13

**Percentage Not Reaching Each Item by Subgroup for Reading Comprehension**

| Item | Gender | | Ethnic Subgroup | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Black | White | Hispanic | Puerto Rican | Mexican American | Asian |
| 1 | 0.44 | 0.20 | 0.23 | 0.32 | 0.46 | 0.00 | 0.45 | 0.41 |
| 3 | 0.44 | 0.20 | 0.23 | 0.32 | 0.58 | 0.00 | 0.45 | 0.41 |
| 4 | 0.44 | 0.20 | 0.23 | 0.32 | 0.58 | 0.00 | 0.45 | 0.41 |
| 5 | 0.44 | 0.20 | 0.23 | 0.32 | 0.58 | 0.00 | 0.45 | 0.41 |
| 6 | 0.44 | 0.20 | 0.23 | 0.32 | 0.58 | 0.00 | 0.45 | 0.41 |
| 7 | 0.45 | 0.20 | 0.23 | 0.33 | 0.58 | 0.00 | 0.45 | 0.41 |
| 8 | 0.46 | 0.20 | 0.23 | 0.33 | 0.58 | 0.00 | 0.45 | 0.41 |
| 9 | 0.46 | 0.20 | 0.23 | 0.33 | 0.58 | 0.00 | 0.45 | 0.41 |
| 10 | 0.46 | 0.20 | 0.23 | 0.33 | 0.58 | 0.00 | 0.45 | 0.41 |
| 11 | 0.46 | 0.20 | 0.23 | 0.33 | 0.58 | 0.00 | 0.45 | 0.41 |
| 12 | 0.46 | 0.20 | 0.23 | 0.33 | 0.58 | 0.00 | 0.45 | 0.41 |
| 13 | 0.46 | 0.20 | 0.23 | 0.33 | 0.58 | 0.00 | 0.45 | 0.41 |
| 14 | 0.46 | 0.20 | 0.23 | 0.33 | 0.58 | 0.00 | 0.45 | 0.41 |
| 15 | 0.47 | 0.21 | 0.23 | 0.34 | 0.58 | 0.41 | 0.45 | 0.41 |
| 16 | 0.47 | 0.21 | 0.23 | 0.34 | 0.58 | 0.41 | 0.45 | 0.41 |
| 17 | 0.48 | 0.22 | 0.27 | 0.35 | 0.58 | 0.41 | 0.45 | 0.47 |
| 18 | 0.50 | 0.22 | 0.27 | 0.35 | 0.58 | 0.41 | 0.45 | 0.53 |
| 19 | 0.50 | 0.22 | 0.27 | 0.36 | 0.58 | 0.41 | 0.67 | 0.53 |
| 20 | 0.50 | 0.23 | 0.32 | 0.36 | 0.58 | 0.41 | 0.67 | 0.53 |
| 21 | 0.51 | 0.25 | 0.32 | 0.37 | 0.58 | 0.83 | 0.67 | 0.53 |
| 22 | 0.54 | 0.31 | 0.60 | 0.39 | 0.58 | 1.24 | 0.90 | 0.59 |
| 23 | 0.55 | 0.36 | 0.82 | 0.41 | 0.69 | 1.24 | 0.90 | 0.65 |
| 24 | 0.58 | 0.40 | 1.05 | 0.42 | 0.69 | 1.24 | 0.90 | 0.65 |
| 25 | 0.64 | 0.46 | 1.37 | 0.46 | 0.81 | 1.24 | 0.90 | 0.71 |
| 26 | 0.68 | 0.55 | 1.69 | 0.50 | 0.92 | 1.66 | 0.90 | 0.71 |
| 27 | 0.74 | 0.70 | 2.15 | 0.58 | 1.04 | 2.07 | 0.90 | 0.77 |
| 28 | 0.82 | 0.85 | 3.02 | 0.64 | 1.15 | 2.07 | 1.35 | 0.89 |
| 29 | 1.18 | 1.59 | 5.04 | 1.03 | 2.19 | 4.15 | 2.02 | 1.36 |
| 30 | 1.30 | 1.81 | 5.59 | 1.15 | 2.31 | 4.15 | 2.47 | 1.66 |
| 31 | 1.50 | 2.18 | 6.55 | 1.38 | 2.42 | 4.98 | 3.15 | 1.90 |
| 32 | 1.72 | 2.60 | 7.79 | 1.60 | 2.89 | 6.64 | 3.37 | 2.31 |
| 33 | 2.08 | 3.28 | 8.89 | 2.05 | 3.70 | 7.05 | 4.04 | 2.85 |
| 34 | 3.97 | 5.72 | 12.69 | 4.01 | 5.89 | 8.71 | 6.07 | 5.45 |

## Table 14

**Percentage Not Reaching Each Item by Subgroup for Logical Reasoning**

| Item | Gender | | Ethnic Subgroup | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Black | White | Hispanic | Puerto Rican | Mexican American | Asian |
| 1 | 0.42 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 2 | 0.42 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 3 | 0.42 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 4 | 0.42 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 5 | 0.42 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 6 | 0.42 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 7 | 0.42 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 8 | 0.43 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 9 | 0.43 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 10 | 0.43 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 11 | 0.43 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 12 | 0.43 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 13 | 0.43 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 14 | 0.43 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 15 | 0.43 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 16 | 0.43 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 17 | 0.43 | 0.20 | 0.23 | 0.31 | 0.58 | 0.41 | 0.45 | 0.41 |
| 18 | 0.44 | 0.20 | 0.23 | 0.32 | 0.58 | 0.41 | 0.45 | 0.41 |
| 19 | 0.44 | 0.21 | 0.23 | 0.32 | 0.58 | 0.83 | 0.45 | 0.41 |
| 20 | 0.44 | 0.22 | 0.27 | 0.32 | 0.58 | 0.83 | 0.45 | 0.41 |
| 21 | 0.44 | 0.22 | 0.27 | 0.32 | 0.58 | 0.83 | 0.45 | 0.41 |
| 22 | 0.46 | 0.26 | 0.37 | 0.34 | 0.58 | 0.83 | 0.45 | 0.41 |
| 23 | 0.47 | 0.27 | 0.46 | 0.36 | 0.58 | 0.83 | 0.45 | 0.41 |
| 24 | 0.49 | 0.30 | 0.55 | 0.37 | 0.69 | 0.83 | 0.45 | 0.41 |
| 25 | 0.54 | 0.32 | 0.82 | 0.39 | 0.81 | 1.24 | 0.45 | 0.47 |
| 26 | 0.59 | 0.36 | 1.28 | 0.41 | 0.81 | 1.24 | 0.45 | 0.53 |
| 27 | 0.68 | 0.44 | 1.65 | 0.45 | 0.92 | 2.07 | 0.67 | 0.65 |
| 28 | 0.71 | 0.47 | 1.69 | 0.48 | 0.92 | 2.07 | 0.67 | 0.77 |
| 29 | 0.81 | 0.65 | 2.34 | 0.58 | 0.92 | 2.07 | 0.67 | 0.95 |
| 30 | 0.93 | 0.76 | 2.89 | 0.66 | 1.04 | 2.49 | 1.12 | 1.01 |
| 31 | 1.50 | 1.56 | 4.76 | 1.23 | 2.08 | 2.90 | 2.25 | 1.78 |
| 32 | 1.81 | 1.97 | 5.63 | 1.52 | 2.54 | 4.98 | 2.92 | 2.02 |
| 33 | 4.73 | 4.87 | 10.63 | 4.22 | 5.43 | 7.88 | 6.74 | 4.51 |

Figure 1

Percentage Not Reaching Each Item
by Subgroup for Analytical Reasoning

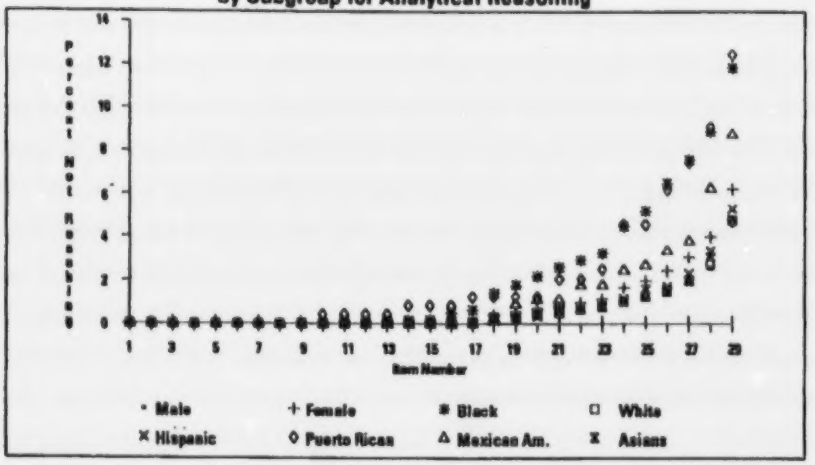
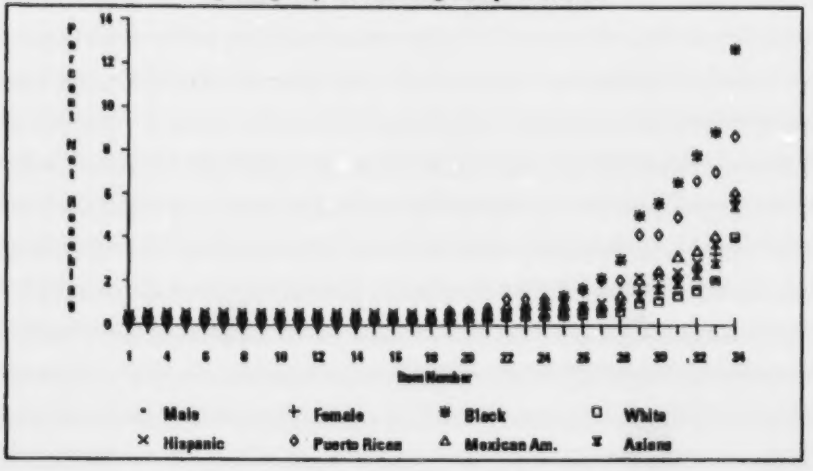



Figure 2

Percentage Not Reaching Each Item
by Subgroup for Reading Comprehension

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Two factors related to item difficulty are explored for this report. First, overall differences in difficulty are examined. If the test is more difficult for one group than for the other, item difficulty estimated using information from either of the groups separately will vary accordingly. In other words, based on the performance data already reviewed, the difficulty of an item estimated from the Caucasian subgroup will be easier than the one estimated from Black/Afro-American or Hispanic subgroups. A five-choice item, as are used on the LSAT, would be expected to have a delta of about 12.0 if it is of middle difficulty. A higher delta value indicates a more difficult item and a lower delta value indicates an easier item. LSAT item deltas are all equated back to the December 1987 test form so that items from multiple test forms can be compared directly, regardless of when and to whom the items were administered. When comparing estimates of item difficulty within the same test form, it is not important whether equated or raw deltas are used, so long as the same type of delta is used for each comparison group.

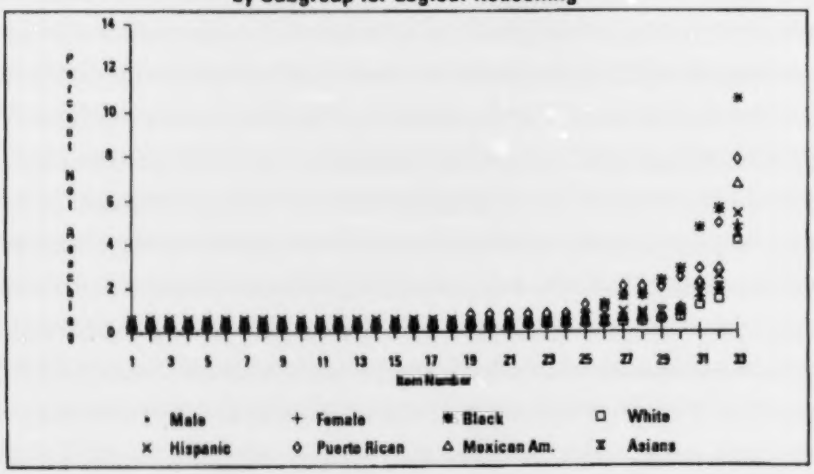
Tables 15 through 17 show equated deltas for each subgroup for each item in the Reading Comprehension, Analytical Reasoning, and Logical Reasoning sections, respectively.

Mean deltas and standard deviations for each section by subgroup are shown at the foot of each table. The data in these tables suggest that the target delta value of mean 12, standard deviation 1.5-2.0, was fairly well met for the Caucasian subgroup, but not for the Black/Afro-American and Hispanic subgroups. These data are consistent with the expectation based on section performance that is discussed in the previous section of this report.

An important question relative to differences in item difficulty across different subgroups is whether all the items in the section are easier or more difficult for the group, or whether there are some items that are clearly different in difficulty from the others of the same type. One way to evaluate this is to estimate the correlation between the deltas for the two groups, e.g., between the deltas for males and the deltas for females. Another way to identify the presence of items that differ substantially in difficulty for one or the other groups is to plot the pairs of item difficulties. This is one of the earliest methods used to look for evidence of item bias. If the differences in item difficulty are a consequence of genuine differences in the ability being measured, the points representing pairs of delta values will appear quite close to the straight line that would represent a perfect linear relationship. On the other hand, if one or more of the items were biased against one of the groups, it would appear as an outlier, i.e., it would lie some distance from the straight line. Points falling below the line identify

**Figure 3**

**Percentage Not Reaching Each Item by Subgroup for Logical Reasoning**

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## Table 15

**Equated Deltas by Subgroup for Analytical Reasoning**

| Item | Gender | | Ethnic Subgroup | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Black | White | Hispanic | Puerto Rican | Mexican American | Asian |
| 1 | 10.08 | 9.98 | 12.31 | 9.74 | 11.03 | 11.47 | 11.06 | 10.01 |
| 2 | 11.19 | 11.43 | 13.61 | 11.05 | 12.30 | 12.92 | 12.06 | 10.89 |
| 3 | 9.66 | 9.86 | 11.70 | 9.51 | 10.78 | 10.86 | 10.53 | 9.87 |
| 4 | 11.16 | 10.94 | 13.25 | 10.81 | 12.15 | 12.17 | 11.73 | 11.10 |
| 5 | 9.76 | 9.65 | 12.18 | 9.42 | 10.72 | 10.96 | 10.65 | 9.33 |
| 6 | 12.08 | 12.30 | 14.36 | 11.96 | 13.32 | 13.94 | 13.22 | 11.68 |
| 7 | 12.43 | 12.47 | 14.26 | 12.29 | 13.09 | 13.60 | 13.38 | 11.95 |
| 8 | 9.20 | 8.88 | 10.77 | 8.87 | 9.82 | 10.41 | 9.80 | 8.46 |
| 9 | 9.99 | 9.64 | 11.72 | 9.59 | 10.53 | 11.99 | 11.47 | 9.65 |
| 10 | 9.76 | 9.28 | 11.44 | 9.34 | 10.01 | 10.92 | 10.65 | 9.00 |
| 11 | 12.97 | 12.69 | 14.58 | 12.68 | 13.32 | 14.01 | 14.11 | 12.49 |
| 12 | 10.32 | 9.97 | 12.24 | 9.89 | 11.32 | 11.82 | 11.62 | 10.03 |
| 13 | 14.13 | 13.84 | 15.86 | 13.82 | 14.95 | 15.14 | 15.38 | 13.72 |
| 14 | 14.01 | 14.08 | 16.51 | 13.80 | 15.10 | 15.74 | 15.43 | 13.79 |
| 15 | 12.69 | 12.53 | 14.37 | 12.43 | 13.60 | 13.77 | 14.00 | 12.43 |
| 16 | 14.22 | 14.46 | 15.98 | 14.21 | 15.15 | 15.36 | 15.30 | 13.78 |
| 17 | 13.16 | 12.88 | 15.40 | 12.79 | 14.03 | 14.88 | 14.49 | 13.02 |
| 18 | 12.39 | 12.53 | 14.75 | 12.22 | 13.14 | 14.14 | 13.85 | 12.29 |
| 19 | 13.03 | 13.18 | 14.81 | 12.92 | 14.02 | 14.18 | 14.05 | 13.03 |
| 20 | 14.32 | 14.10 | 16.71 | 13.97 | 15.25 | 16.23 | 15.91 | 14.34 |
| 21 | 16.03 | 16.14 | 16.62 | 16.06 | 16.16 | 16.20 | 16.10 | 15.93 |
| 22 | 14.88 | 14.87 | 15.69 | 14.78 | 15.49 | 16.63 | 15.62 | 14.86 |
| 23 | 14.82 | 14.75 | 16.71 | 14.62 | 15.56 | 16.13 | 16.33 | 14.57 |
| 24 | 10.32 | 10.18 | 12.12 | 10.08 | 11.24 | 11.88 | 11.02 | 9.54 |
| 25 | 11.24 | 11.21 | 13.25 | 11.04 | 12.17 | 12.91 | 12.24 | 10.47 |
| 26 | 11.68 | 11.83 | 13.95 | 11.56 | 12.42 | 12.89 | 12.95 | 11.03 |
| 27 | 12.64 | 12.63 | 14.37 | 12.52 | 13.39 | 13.87 | 13.69 | 11.48 |
| 28 | 13.48 | 13.90 | 15.59 | 13.54 | 14.35 | 15.52 | 14.64 | 12.94 |
| 29 | 14.00 | 14.27 | 16.18 | 14.00 | 14.80 | 15.49 | 15.18 | 13.20 |
| Mean | 12.26 | 12.22 | 14.18 | 12.05 | 13.08 | 13.66 | 13.33 | 11.89 |
| SD | 1.85 | 1.94 | 1.76 | 1.92 | 1.82 | 1.84 | 1.92 | 1.93 |

## Table 16

**Equated Deltas by Subgroup for Reading Comprehension**

| Item | Gender | | Ethnic Subgroup | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Black | White | Hispanic | Puerto Rican | Mexican American | Asian |
| 1 | 12.33 | 12.79 | 13.59 | 12.39 | 13.13 | 13.05 | 13.42 | 13.07 |
| 3 | 12.69 | 12.96 | 13.45 | 12.77 | 13.09 | 13.60 | 12.77 | 12.58 |
| 4 | 14.84 | 15.59 | 16.36 | 15.05 | 15.63 | 16.70 | 15.75 | 15.61 |
| 5 | 11.59 | 12.28 | 13.32 | 11.72 | 12.67 | 13.39 | 12.73 | 12.24 |
| 6 | 8.70 | 8.80 | 10.30 | 8.51 | 9.40 | 10.91 | 9.59 | 8.84 |
| 7 | 10.72 | 11.00 | 12.09 | 10.71 | 11.57 | 11.52 | 12.17 | 10.88 |
| 8 | 12.24 | 13.13 | 14.67 | 12.40 | 13.73 | 14.28 | 13.84 | 13.16 |
| 9 | 10.65 | 11.50 | 12.33 | 10.91 | 11.76 | 11.90 | 11.85 | 10.72 |
| 10 | 12.56 | 13.09 | 14.09 | 12.70 | 13.15 | 13.09 | 13.33 | 12.84 |
| 11 | 11.97 | 12.75 | 13.44 | 12.23 | 12.62 | 12.84 | 12.98 | 12.15 |
| 12 | 13.69 | 13.82 | 14.40 | 13.68 | 14.23 | 14.50 | 13.91 | 13.63 |
| 13 | 11.52 | 12.22 | 13.47 | 11.67 | 12.72 | 13.56 | 12.65 | 11.63 |
| 14 | 11.68 | 12.01 | 12.84 | 11.70 | 12.43 | 12.84 | 12.29 | 11.79 |
| 15 | 13.31 | 13.57 | 14.35 | 13.30 | 14.04 | 14.18 | 13.95 | 13.72 |
| 16 | 13.20 | 13.47 | 13.74 | 13.30 | 13.54 | 13.33 | 14.19 | 12.95 |
| 17 | 10.73 | 11.16 | 12.33 | 10.78 | 11.17 | 11.77 | 10.90 | 11.00 |
| 18 | 10.67 | 10.98 | 12.29 | 10.60 | 11.89 | 12.50 | 11.43 | 11.27 |
| 19 | 10.04 | 10.61 | 11.87 | 10.06 | 11.15 | 12.19 | 11.38 | 11.06 |
| 20 | 13.44 | 14.15 | 14.96 | 13.62 | 14.26 | 15.75 | 14.13 | 14.04 |
| 21 | 11.40 | 12.26 | 13.04 | 11.64 | 12.54 | 12.74 | 12.28 | 12.03 |
| 22 | 13.41 | 13.92 | 15.19 | 13.46 | 14.34 | 15.30 | 14.05 | 14.06 |
| 23 | 13.93 | 14.34 | 15.65 | 13.95 | 15.13 | 16.23 | 15.07 | 14.09 |
| 24 | 7.69 | 7.51 | 9.41 | 7.30 | 8.29 | 9.40 | 8.34 | 8.29 |
| 25 | 13.29 | 13.36 | 14.61 | 13.16 | 14.02 | 14.71 | 14.12 | 13.80 |
| 26 | 11.66 | 11.46 | 12.86 | 11.40 | 12.34 | 13.08 | 12.41 | 11.80 |
| 27 | 12.73 | 13.39 | 14.52 | 12.84 | 13.74 | 13.88 | 13.66 | 13.52 |
| 28 | 9.77 | 9.80 | 11.93 | 9.49 | 10.47 | 11.59 | 10.44 | 10.19 |
| 29 | 11.34 | 11.66 | 13.34 | 11.27 | 12.69 | 13.07 | 12.63 | 11.46 |
| 30 | 12.72 | 12.67 | 14.13 | 12.58 | 13.35 | 13.38 | 13.31 | 12.43 |
| 31 | 12.39 | 12.83 | 14.13 | 12.47 | 13.01 | 13.20 | 13.25 | 12.39 |
| 32 | 14.06 | 14.08 | 15.79 | 13.92 | 14.72 | 15.17 | 14.70 | 14.32 |
| 33 | 13.35 | 14.11 | 15.09 | 13.59 | 13.99 | 15.01 | 14.74 | 13.55 |
| 34 | 16.86 | 17.03 | 17.30 | 16.87 | 17.48 | 17.43 | 16.71 | 17.50 |
| Mean | 12.16 | 12.55 | 13.66 | 12.18 | 12.98 | 13.52 | 13.00 | 12.50 |
| SD | 1.75 | 1.82 | 1.60 | 1.82 | 1.73 | 1.67 | 1.68 | 1.78 |



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questions that are more difficult for the group represented on the horizontal axis. Points above the line represent questions more difficult for the group on the vertical axis.

Such plots are presented in Figures 4 through 9. Delta values for females (horizontal axis) are compared with those for males (vertical axis), and delta values for Caucasians (horizontal axis) are compared with those for each of the other ethnic subgroups (vertical axis).

In each of the plots shown in Figures 4 through 9, the points are close enough to the line to confirm that there is no evidence of biased items in any of the sections of this form of the LSAT. In order to formally evaluate the significance of any outlying items, the distance from each plotted value to the line formed by the major axis of the ellipse is calculated for each of the six comparisons. The results are presented in Tables 18, 19, and 20 for the Analytical Reasoning, Reading Comprehension, and Logical Reasoning sections respectively. No items show statistically significant departure (=.05) from the major axis. If the items were of equal difficulty for each of the groups, the linear relationship would be defined by a 45° line that runs through the origin.

The final item statistic that is evaluated is the biserial correlation of item score with section score. Biserial correlations are usually examined to provide an estimate of how well the item discriminates the more able from the less able test taker. When comparing performance of these subgroups, biserial correlations add little information to what is

**Table 17**

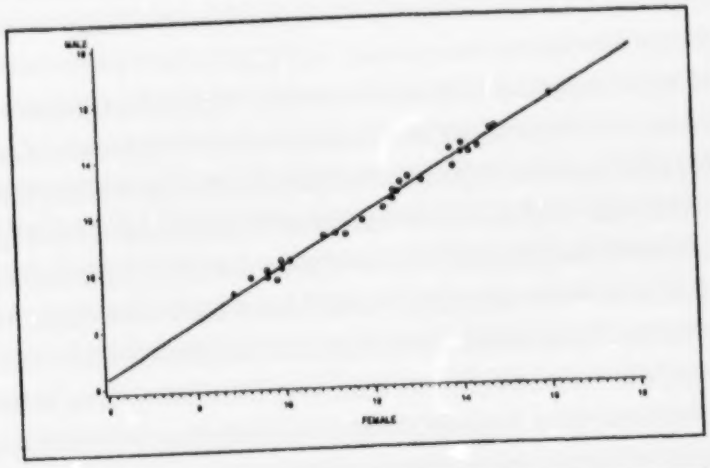
**Equated Deltas by Subgroup for Logical Reasoning**

| Item | Gender | | Ethnic Subgroup | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Black | White | Hispanic | Puerto Rican | Mexican American | Asian |
| 1 | 7.22 | 7.19 | 8.01 | 7.13 | 7.15 | 8.04 | 8.04 | 7.13 |
| 2 | 9.75 | 9.93 | 10.94 | 9.67 | 10.67 | 11.33 | 11.02 | 10.02 |
| 3 | 10.96 | 11.30 | 12.76 | 10.90 | 12.03 | 12.98 | 12.56 | 11.31 |
| 4 | 13.05 | 12.53 | 14.13 | 12.65 | 13.11 | 13.11 | 13.75 | 13.64 |
| 5 | 12.51 | 13.25 | 14.98 | 12.60 | 13.96 | 14.52 | 13.70 | 13.53 |
| 6 | 12.47 | 12.75 | 14.64 | 12.35 | 13.48 | 13.71 | 13.95 | 13.09 |
| 7 | 10.04 | 10.51 | 11.88 | 10.02 | 10.90 | 12.24 | 11.38 | 10.91 |
| 8 | 12.36 | 12.53 | 14.11 | 12.25 | 13.48 | 13.98 | 14.00 | 12.39 |
| 9 | 8.11 | 8.18 | 9.19 | 7.93 | 8.53 | 9.80 | 9.01 | 8.78 |
| 10 | 8.70 | 8.48 | 9.81 | 8.37 | 9.57 | 10.65 | 9.88 | 9.09 |
| 11 | 8.52 | 8.07 | 10.05 | 7.95 | 9.34 | 10.65 | 9.39 | 9.55 |
| 12 | 10.45 | 9.90 | 11.65 | 9.99 | 10.96 | 12.01 | 11.21 | 10.86 |
| 13 | 11.29 | 11.58 | 13.68 | 11.10 | 13.17 | 12.94 | 12.82 | 12.28 |
| 14 | 11.34 | 11.19 | 12.27 | 11.13 | 11.74 | 12.59 | 11.80 | 11.63 |
| 15 | 13.08 | 12.85 | 13.54 | 12.91 | 13.38 | 13.67 | 13.82 | 12.64 |
| 16 | 10.31 | 11.24 | 13.34 | 10.42 | 12.02 | 12.55 | 12.02 | 11.29 |
| 17 | 11.11 | 11.12 | 12.49 | 10.95 | 11.89 | 12.33 | 11.74 | 11.31 |
| 18 | 12.95 | 12.85 | 12.82 | 12.93 | 12.98 | 13.03 | 12.70 | 12.50 |
| 19 | 12.96 | 12.87 | 14.35 | 12.73 | 13.67 | 13.99 | 14.07 | 13.56 |
| 20 | 13.75 | 14.48 | 14.52 | 14.02 | 14.47 | 14.50 | 14.16 | 14.50 |
| 21 | 12.90 | 13.33 | 13.95 | 12.97 | 13.80 | 13.60 | 13.68 | 13.51 |
| 22 | 13.54 | 13.32 | 14.69 | 13.31 | 14.18 | 14.07 | 13.72 | 13.64 |
| 23 | 14.89 | 14.81 | 16.36 | 14.74 | 15.35 | 16.19 | 15.90 | 14.67 |
| 24 | 13.28 | 13.92 | 14.85 | 13.44 | 14.25 | 14.81 | 14.51 | 13.50 |
| 25 | 12.66 | 12.64 | 13.96 | 12.50 | 13.41 | 13.92 | 13.29 | 12.73 |
| 26 | 11.03 | 10.61 | 11.75 | 10.72 | 11.48 | 12.13 | 11.21 | 10.92 |
| 27 | 10.18 | 10.11 | 11.62 | 9.96 | 10.94 | 12.26 | 10.97 | 10.24 |
| 28 | 9.66 | 9.69 | 12.29 | 9.28 | 10.62 | 11.54 | 11.16 | 10.40 |
| 29 | 12.04 | 12.68 | 14.57 | 12.11 | 13.19 | 13.67 | 12.97 | 12.56 |
| 30 | 11.74 | 11.83 | 14.27 | 11.47 | 12.88 | 13.91 | 13.83 | 12.06 |
| 31 | 13.27 | 13.07 | 15.27 | 12.5 | 14.15 | 14.32 | 14.24 | 13.16 |
| 32 | 14.17 | 14.61 | 15.89 | 14.23 | 15.06 | 15.24 | 15.01 | 14.71 |
| 33 | 14.34 | 14.95 | 16.07 | 14.45 | 15.38 | 15.73 | 15.24 | 15.25 |
| Mean | 11.66 | 11.77 | 13.17 | 11.52 | 12.46 | 13.03 | 12.63 | 12.04 |
| SD | 1.88 | 2.00 | 1.98 | 1.99 | 1.95 | 1.68 | 1.85 | 1.88 |

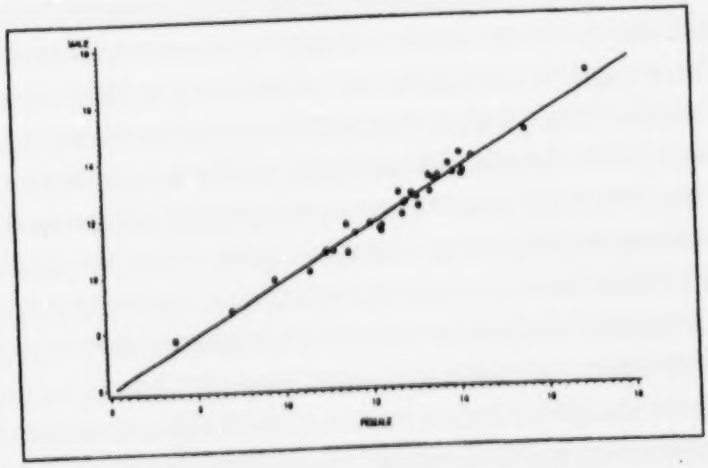
**Figure 4**

**Item Deltas for Male Subgroup by Item Deltas for Female Subgroup**

**Analytical Reasoning**
**r = .99**



**Reading Comprehension**
**r = .98**



**Logical Reasoning**
**r = .98**

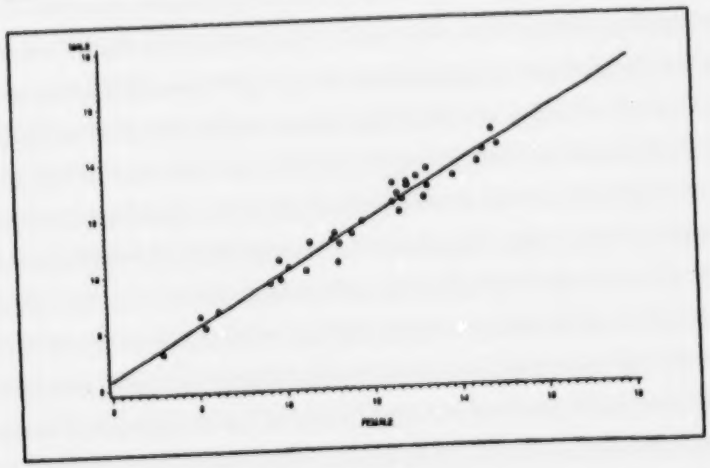


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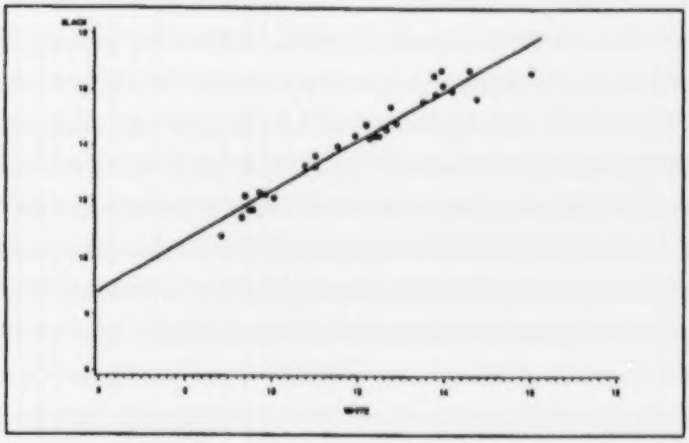
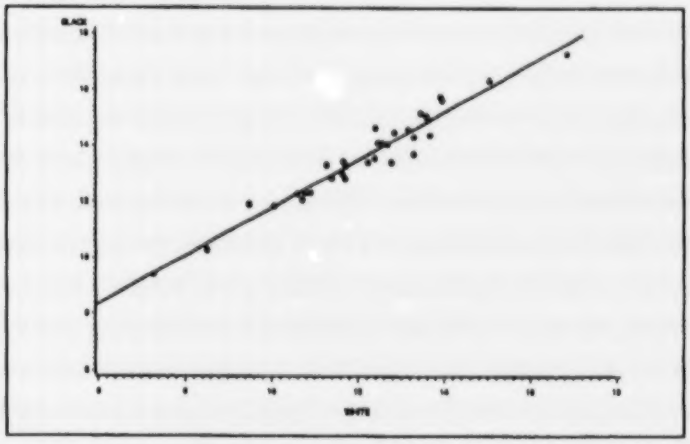
**Figure 5**

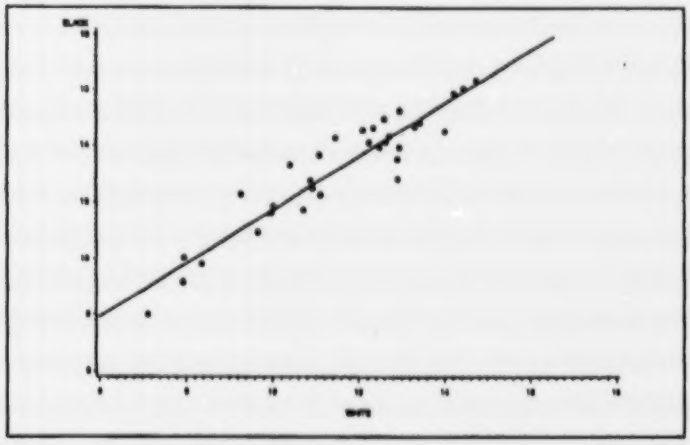
**Item Deltas for Black Subgroup by Item Deltas for Caucasian Subgroup**



**Analytical Reasoning**
**r = .97**



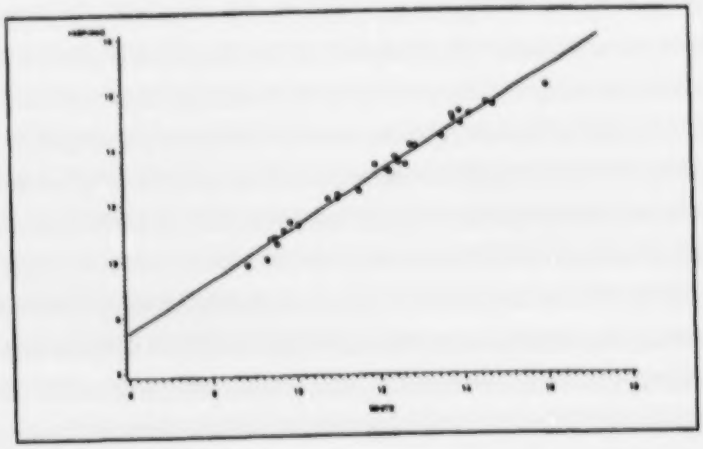
**Reading Comprehension**
**r = .97**



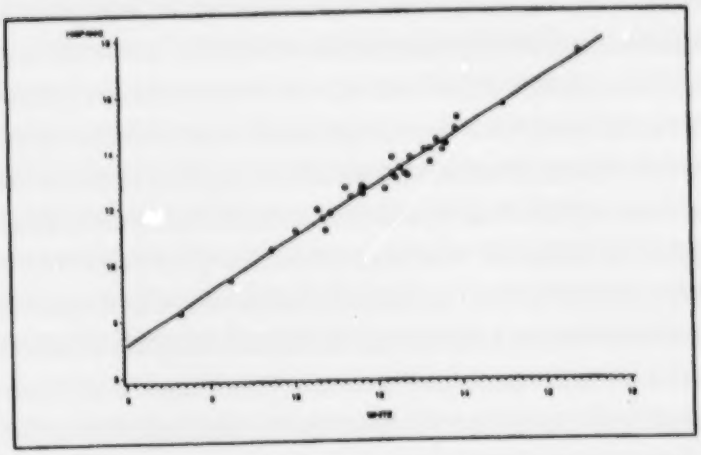
**Logical Reasoning**
**r = .94**

**Figure 6**

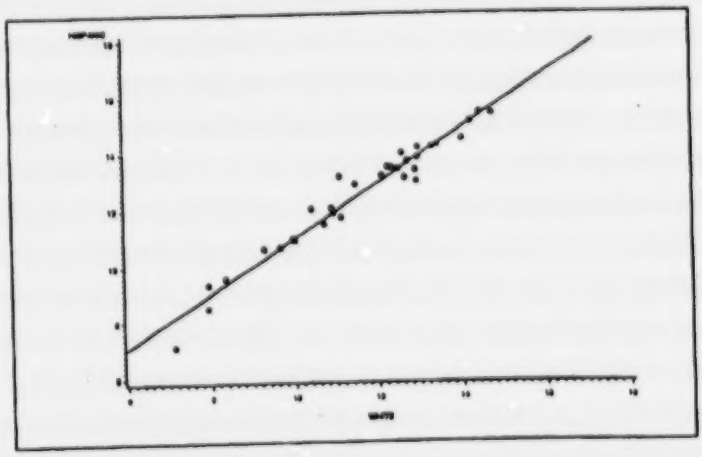
**Item Deltas for Hispanic Subgroup by Item Deltas for Caucasian Subgroup**



**Analytical Reasoning**
**r = .99**



**Reading Comprehension**
**r = .98**



**Logical Reasoning**
**r = .98**

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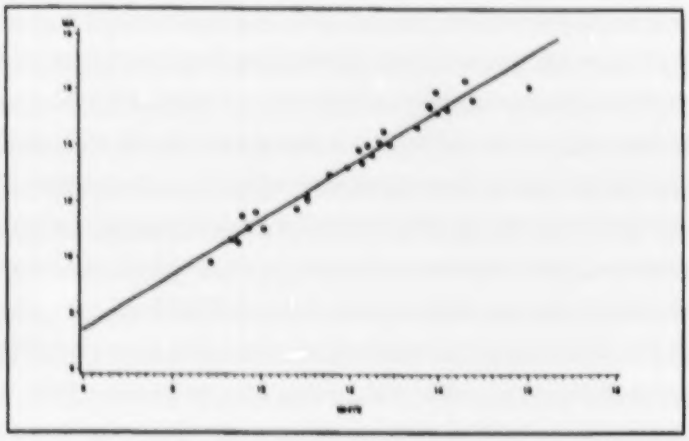
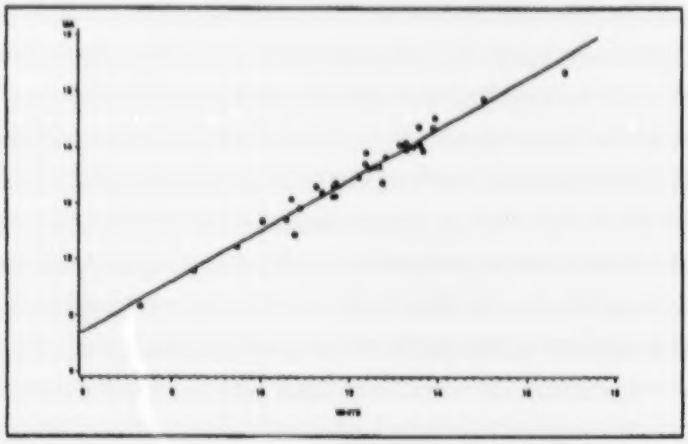
**Figure 7**

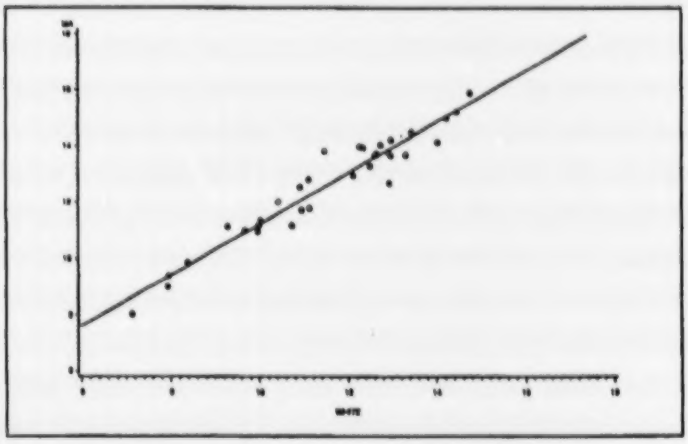
**Item Deltas for Mexican American Subgroup by Item Deltas for Caucasian Subgroup**



**Analytical Reasoning**
**r = .98**



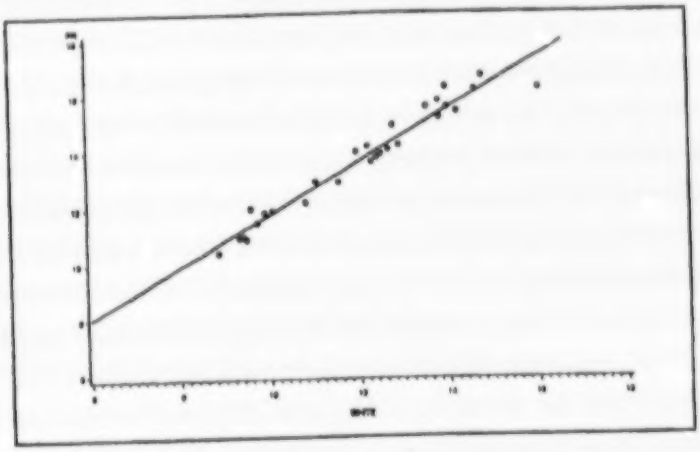
**Reading Comprehension**
**r = .98**



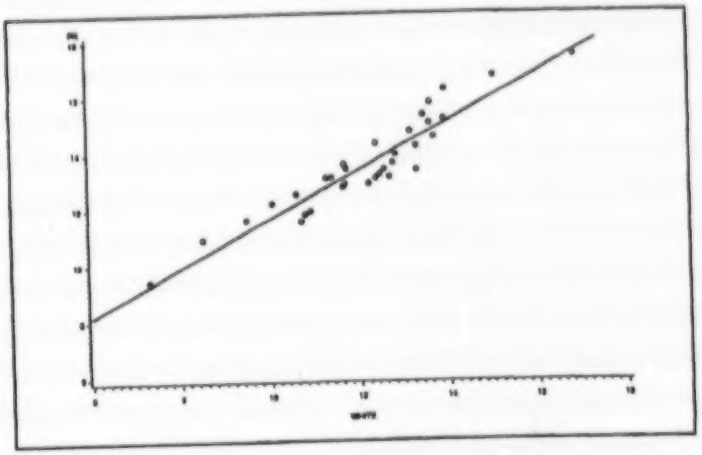
**Logical Reasoning**
**r = .97**

Figure 8

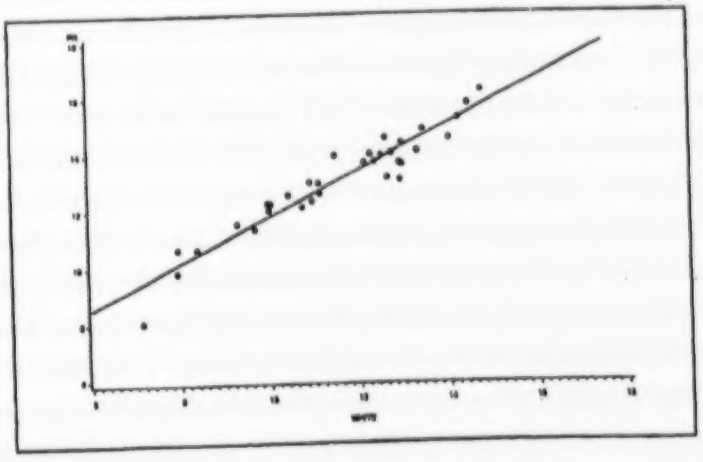
Item Deltas for Puerto Rican Subgroup by Item Deltas for Caucasian Subgroup



Analytical Reasoning
r = .98



Reading Comprehension
r = .93



Logical Reasoning
r = .95



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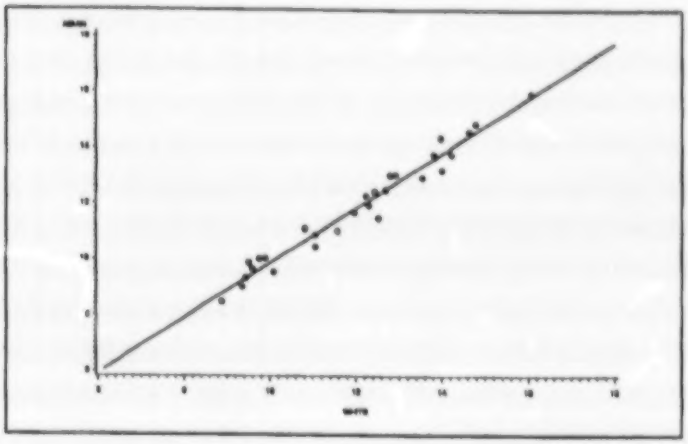
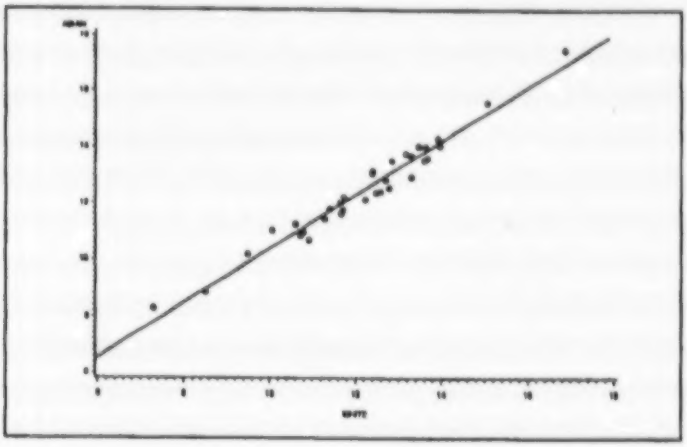
**Figure 9**

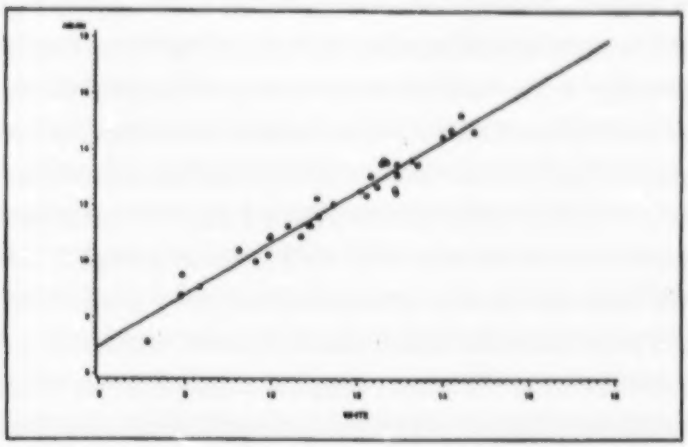
**Item Deltas for Asian/Pacific Islander Subgroup by Item Deltas for Caucasian Subgroup**



**Analytical Reasoning**
**r = .98**



**Reading Comprehension**
**r = .98**



**Logical Reasoning**
**r = .98**

## Table 18

**Distances of Item Deltas from Major Axis for Selected Subgroup Comparisons: Analytical Reasoning**

| Item | Comparison | | | | | |
|---|---|---|---|---|---|---|
| | Male/ Female | White/ Black | White/ Hispanic | White/ Puerto Rican | White/ Mexican American | White/ Asian |
| 1 | 0.03 | 0.18 | 0.10 | 0.02 | 0.04 | 0.32 |
| 2 | 0.23 | 0.26 | 0.12 | 0.16 | 0.18 | 0.01 |
| 3 | 0.26 | 0.11 | 0.07 | 0.26 | 0.17 | 0.38 |
| 4 | 0.09 | 0.15 | 0.18 | 0.21 | 0.24 | 0.33 |
| 5 | 0.04 | 0.30 | 0.09 | 0.12 | 0.02 | 0.07 |
| 6 | 0.19 | 0.19 | 0.24 | 0.27 | 0.01 | 0.08 |
| 7 | 0.05 | 0.10 | 0.15 | 0.21 | 0.13 | 0.13 |
| 8 | 0.08 | 0.36 | 0.19 | 0.14 | 0.23 | 0.15 |
| 9 | 0.13 | 0.15 | 0.16 | 0.50 | 0.44 | 0.17 |
| 10 | 0.22 | 0.19 | 0.37 | 0.05 | 0.04 | 0.11 |
| 11 | 0.19 | 0.13 | 0.25 | 0.18 | 0.11 | 0.03 |
| 12 | 0.15 | 0.03 | 0.20 | 0.17 | 0.33 | 0.23 |
| 13 | 0.24 | 0.04 | 0.15 | 0.15 | 0.19 | 0.03 |
| 14 | 0.02 | 0.53 | 0.27 | 0.29 | 0.24 | 0.09 |
| 15 | 0.10 | 0.12 | 0.12 | 0.18 | 0.21 | 0.11 |
| 16 | 0.13 | 0.13 | 0.03 | 0.27 | 0.14 | 0.21 |
| 17 | 0.20 | 0.40 | 0.19 | 0.37 | 0.30 | 0.27 |
| 18 | 0.12 | 0.30 | 0.07 | 0.23 | 0.25 | 0.16 |
| 19 | 0.10 | 0.12 | 0.08 | 0.22 | 0.11 | 0.18 |
| 20 | 0.20 | 0.57 | 0.27 | 0.53 | 0.46 | 0.36 |
| 21 | 0.03 | 0.91 | 0.50 | 0.94 | 0.89 | 0.01 |
| 22 | 0.07 | 0.73 | 0.11 | 0.26 | 0.32 | 0.15 |
| 23 | 0.11 | 0.13 | 0.05 | 0.01 | 0.30 | 0.08 |
| 24 | 0.00 | 0.19 | 0.02 | 0.08 | 0.21 | 0.25 |
| 25 | 0.04 | 0.00 | 0.03 | 0.16 | 0.05 | 0.28 |
| 26 | 0.15 | 0.16 | 0.14 | 0.21 | 0.08 | 0.26 |
| 27 | 0.01 | 0.18 | 0.09 | 0.17 | 0.08 | 0.62 |
| 28 | 0.28 | 0.03 | 0.09 | 0.31 | 0.13 | 0.32 |
| 29 | 0.15 | 0.16 | 0.08 | 0.03 | 0.07 | 0.47 |

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## Table 19

**Distances of Item Deltas from Major Axis for Selected Subgroup Comparisons: Reading Comprehension**

| Item | Comparison | | | | | |
|---|---|---|---|---|---|---|
| | Male/ Female | White/ Black | White/ Hispanic | White/ Puerto Rican | White/ Mexican American | White/ Asian |
| 1 | 0.04 | 0.19 | 0.03 | 0.48 | 0.17 | 0.26 |
| 3 | 0.10 | 0.55 | 0.32 | 0.34 | 0.57 | 0.36 |
| 4 | 0.18 | 0.14 | 0.06 | 0.37 | 0.08 | 0.20 |
| 5 | 0.22 | 0.05 | 0.10 | 0.22 | 0.12 | 0.14 |
| 6 | 0.12 | 0.11 | 0.06 | 0.60 | 0.01 | 0.03 |
| 7 | 0.05 | 0.21 | 0.00 | 0.46 | 0.39 | 0.12 |
| 8 | 0.34 | 0.61 | 0.39 | 0.41 | 0.47 | 0.32 |
| 9 | 0.35 | 0.16 | 0.01 | 0.31 | 0.02 | 0.38 |
| 10 | 0.08 | 0.02 | 0.23 | 0.67 | 0.11 | 0.12 |
| 11 | 0.27 | 0.20 | 0.29 | 0.53 | 0.05 | 0.28 |
| 12 | 0.22 | 0.43 | 0.13 | 0.30 | 0.35 | 0.25 |
| 13 | 0.23 | 0.19 | 0.17 | 0.38 | 0.09 | 0.26 |
| 14 | 0.04 | 0.30 | 0.06 | 0.17 | 0.19 | 0.17 |
| 15 | 0.12 | 0.22 | 0.00 | 0.28 | 0.06 | 0.08 |
| 16 | 0.11 | 0.68 | 0.36 | 0.90 | 0.12 | 0.47 |
| 17 | 0.06 | 0.08 | 0.34 | 0.32 | 0.59 | 0.09 |
| 18 | 0.03 | 0.01 | 0.30 | 0.34 | 0.08 | 0.23 |
| 19 | 0.17 | 0.05 | 0.14 | 0.48 | 0.25 | 0.46 |
| 20 | 0.19 | 0.03 | 0.06 | 0.65 | 0.14 | 0.08 |
| 21 | 0.34 | 0.11 | 0.06 | 0.20 | 0.16 | 0.04 |
| 22 | 0.05 | 0.31 | 0.11 | 0.43 | 0.09 | 0.21 |
| 23 | 0.03 | 0.33 | 0.34 | 0.78 | 0.32 | 0.11 |
| 24 | 0.30 | 0.02 | 0.03 | 0.32 | 0.11 | 0.43 |
| 25 | 0.25 | 0.07 | 0.08 | 0.21 | 0.16 | 0.24 |
| 26 | 0.40 | 0.09 | 0.08 | 0.21 | 0.10 | 0.05 |
| 27 | 0.17 | 0.21 | 0.10 | 0.18 | 0.04 | 0.26 |
| 28 | 0.20 | 0.47 | 0.04 | 0.43 | 0.05 | 0.24 |
| 29 | 0.03 | 0.36 | 0.42 | 0.30 | 0.35 | 0.10 |
| 30 | 0.32 | 0.09 | 0.00 | 0.37 | 0.04 | 0.33 |
| 31 | 0.02 | 0.16 | 0.18 | 0.43 | 0.01 | 0.28 |
| 32 | 0.31 | 0.46 | 0.06 | 0.02 | 0.07 | 0.07 |
| 33 | 0.22 | 0.15 | 0.24 | 0.13 | 0.32 | 0.24 |
| 34 | 0.27 | 0.35 | 0.03 | 0.34 | 0.45 | 0.27 |

provided by the standard deviations and reliability estimates. Additionally, biserial correlations are subject to relatively large sampling errors. Biserial correlations are included in this report primarily because this is one of the statistics that is reported by subgroup for New York test takers for the 1988-89 testing year in response to the New York Study Bill legislation. Consistent with the data reported to the New York Commission for Bias in Standardized Testing, these data show fairly consistent r-biserials for males and females. These data show slightly lower r-biserials for Black/Afro-Americans and Hispanics than for Caucasians, primarily as a consequence of the greater homogeneity among Caucasian test takers. A much more dramatic difference in r-biserials was evidenced in the data provided to New York simply as a consequence of the calculation method that was legislated in New York. That is, New York requires that all test takers should be included in the calculation of the statistic regardless of whether they all reached the item. As a consequence, item position becomes confounded with other item characteristics and the effects of differential speededness are exacerbated. Routinely, estimates of biserial correlations for LSAT items, and for items in most major standardized tests, are made using data only from those test takers who actually reached the item. Even by using this routine algorithm for calculating the r-biserial, some error is introduced into the statistic as a consequence of the guessing that takes place at the end of each section by those test takers who don't actually reach the item. This is demonstrated by more discrepant r-biserials across subgroups for items that appear at the end of the sections. R-biserials are shown by subgroup in Tables 21 through 23 for the Analytical Reasoning, Reading Comprehension, and Logical Reasoning sections, respectively.

## Table 20

**Distances of Item Deltas from Major Axis for Selected Subgroup Comparisons: Logical Reasoning**

| | Comparison | | | | | |
|---|---|---|---|---|---|---|
| Item | Male/ Female | White/ Black | White/ Hispanic | White/ Puerto Rican | White/ Mexican American | White/ Asian |
| 1 | 0.08 | 0.40 | 0.64 | 0.97 | 0.30 | 0.54 |
| 2 | 0.12 | 0.21 | 0.05 | 0.10 | 0.11 | 0.19 |
| 3 | 0.18 | 0.16 | 0.14 | 0.36 | 0.38 | 0.10 |
| 4 | 0.49 | 0.15 | 0.34 | 0.67 | 0.03 | 0.38 |
| 5 | 0.40 | 0.47 | 0.29 | 0.44 | 0.03 | 0.34 |
| 6 | 0.08 | 0.42 | 0.12 | 0.02 | 0.39 | 0.19 |
| 7 | 0.31 | 0.19 | 0.04 | 0.37 | 0.13 | 0.21 |
| 8 | 0.01 | 0.12 | 0.20 | 0.24 | 0.49 | 0.25 |
| 9 | 0.11 | 0.16 | 0.23 | 0.14 | 0.15 | 0.11 |
| 10 | 0.11 | 0.05 | 0.19 | 0.22 | 0.18 | 0.03 |
| 11 | 0.26 | 0.42 | 0.33 | 0.49 | 0.11 | 0.65 |
| 12 | 0.41 | 0.05 | 0.02 | 0.21 | 0.03 | 0.20 |
| 13 | 0.14 | 0.65 | 0.80 | 0.20 | 0.43 | 0.46 |
| 14 | 0.17 | 0.34 | 0.23 | 0.08 | 0.33 | 0.03 |
| 15 | 0.29 | 0.75 | 0.34 | 0.41 | 0.09 | 0.52 |
| 16 | 0.62 | 0.91 | 0.47 | 0.35 | 0.32 | 0.21 |
| 17 | 0.05 | 0.06 | 0.00 | 0.17 | 0.25 | 0.14 |
| 18 | 0.20 | 1.26 | 0.63 | 0.91 | 0.92 | 0.64 |
| 19 | 0.19 | 0.06 | 0.00 | 0.05 | 0.21 | 0.27 |
| 20 | 0.34 | 0.87 | 0.35 | 0.50 | 0.61 | 0.06 |
| 21 | 0.17 | 0.51 | 0.08 | 0.50 | 0.24 | 0.07 |
| 22 | 0.31 | 0.24 | 0.05 | 0.36 | 0.44 | 0.07 |
| 23 | 0.26 | 0.12 | 0.24 | 0.33 | 0.15 | 0.31 |
| 24 | 0.30 | 0.23 | 0.10 | 0.12 | 0.04 | 0.27 |
| 25 | 0.13 | 0.16 | 0.02 | 0.04 | 0.20 | 0.18 |
| 26 | 0.34 | 0.41 | 0.13 | 0.17 | 0.48 | 0.26 |
| 27 | 0.07 | 0.05 | 0.03 | 0.42 | 0.13 | 0.23 |
| 28 | 0.02 | 1.01 | 0.29 | 0.31 | 0.48 | 0.35 |
| 29 | 0.35 | 0.54 | 0.10 | 0.11 | 0.16 | 0.03 |
| 30 | 0.02 | 0.79 | 0.33 | 0.70 | 0.90 | 0.05 |
| 31 | 0.28 | 0.40 | 0.17 | 0.05 | 0.17 | 0.18 |
| 32 | 0.12 | 0.08 | 0.08 | 0.07 | 0.14 | 0.07 |
| 33 | 0.23 | 0.11 | 0.01 | 0.16 | 0.13 | 0.31 |



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## Table 21

**R-Biserials by Subgroup for Analytical Reasoning**

| Item | Gender | | Ethnic Subgroup | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Black | White | Hispanic | Puerto Rican | Mexican American | Asian |
| 1 | 0.6223 | 0.6097 | 0.5784 | 0.5896 | 0.6495 | 0.6536 | 0.7056 | 0.6890 |
| 2 | 0.6071 | 0.5954 | 0.5721 | 0.5830 | 0.5623 | 0.6750 | 0.4701 | 0.6204 |
| 3 | 0.5899 | 0.5705 | 0.5371 | 0.5581 | 0.6225 | 0.6602 | 0.6235 | 0.6236 |
| 4 | 0.6467 | 0.6444 | 0.5988 | 0.6314 | 0.6661 | 0.6811 | 0.5978 | 0.6232 |
| 5 | 0.6496 | 0.6374 | 0.6196 | 0.6272 | 0.6077 | 0.6411 | 0.6161 | 0.6459 |
| 6 | 0.6176 | 0.6124 | 0.5821 | 0.6037 | 0.5660 | 0.5807 | 0.5788 | 0.5967 |
| 7 | 0.5622 | 0.5096 | 0.4728 | 0.4997 | 0.5798 | 0.4824 | 0.4638 | 0.5633 |
| 8 | 0.5498 | 0.5432 | 0.4849 | 0.5325 | 0.5956 | 0.5974 | 0.4715 | 0.5820 |
| 9 | 0.5874 | 0.6000 | 0.6013 | 0.5678 | 0.5922 | 0.7197 | 0.5614 | 0.5980 |
| 10 | 0.5461 | 0.5578 | 0.5425 | 0.5274 | 0.5409 | 0.5891 | 0.5629 | 0.5470 |
| 11 | 0.5406 | 0.5357 | 0.4623 | 0.5349 | 0.5249 | 0.5716 | 0.4969 | 0.5299 |
| 12 | 0.5447 | 0.5608 | 0.5041 | 0.5249 | 0.5341 | 0.6155 | 0.6115 | 0.5911 |
| 13 | 0.5256 | 0.5149 | 0.4986 | 0.5070 | 0.4931 | 0.4828 | 0.4736 | 0.5660 |
| 14 | 0.5310 | 0.5387 | 0.5220 | 0.5095 | 0.5201 | 0.6303 | 0.5173 | 0.5708 |
| 15 | 0.4789 | 0.4642 | 0.3698 | 0.4810 | 0.4987 | 0.3970 | 0.5247 | 0.4637 |
| 16 | 0.5258 | 0.5028 | 0.3838 | 0.5149 | 0.4531 | 0.4552 | 0.4334 | 0.5587 |
| 17 | 0.5876 | 0.5893 | 0.5153 | 0.5695 | 0.6261 | 0.6267 | 0.5377 | 0.6668 |
| 18 | 0.5970 | 0.5922 | 0.5321 | 0.5832 | 0.5510 | 0.6567 | 0.4782 | 0.5837 |
| 19 | 0.5380 | 0.5481 | 0.4307 | 0.5403 | 0.5326 | 0.4749 | 0.4174 | 0.5380 |
| 20 | 0.6735 | 0.6750 | 0.5599 | 0.6714 | 0.6379 | 0.6493 | 0.5598 | 0.7047 |
| 21 | 0.2999 | 0.2952 | 0.1688 | 0.3133 | 0.1848 | 0.2871 | 0.2743 | 0.2462 |
| 22 | 0.4122 | 0.4725 | 0.2742 | 0.4267 | 0.4027 | 0.3802 | 0.3379 | 0.4080 |
| 23 | 0.5995 | 0.6205 | 0.3998 | 0.6120 | 0.6080 | 0.5464 | 0.5016 | 0.6407 |
| 24 | 0.5375 | 0.5213 | 0.4626 | 0.5181 | 0.4865 | 0.6050 | 0.4661 | 0.5641 |
| 25 | 0.5968 | 0.5827 | 0.5210 | 0.5802 | 0.5800 | 0.6311 | 0.5592 | 0.6384 |
| 26 | 0.5913 | 0.5921 | 0.5565 | 0.5767 | 0.5881 | 0.4651 | 0.5968 | 0.6574 |
| 27 | 0.5532 | 0.5593 | 0.4718 | 0.5507 | 0.5441 | 0.5392 | 0.5089 | 0.5979 |
| 28 | 0.5846 | 0.5760 | 0.5218 | 0.5714 | 0.5465 | 0.6422 | 0.5997 | 0.6339 |
| 29 | 0.5661 | 0.5424 | 0.4626 | 0.5497 | 0.5359 | 0.5054 | 0.3742 | 0.5757 |

## Table 22

**R-Biserials by Subgroup for Reading Comprehension**

| Item | Gender | | Ethnic Subgroup | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Black | White | Hispanic | Puerto Rican | Mexican American | Asian |
| 1 | 0.3599 | 0.4165 | 0.4668 | 0.3695 | 0.3942 | 0.4523 | 0.4192 | 0.4439 |
| 3 | 0.2538 | 0.2656 | 0.2948 | 0.2533 | 0.2443 | 0.3864 | 0.1471 | 0.3357 |
| 4 | 0.3525 | 0.3975 | 0.3633 | 0.3754 | 0.3630 | 0.4153 | 0.4550 | 0.3255 |
| 5 | 0.3672 | 0.3621 | 0.4200 | 0.3455 | 0.3942 | 0.5265 | 0.3142 | 0.4144 |
| 6 | 0.3846 | 0.4357 | 0.4555 | 0.3515 | 0.4392 | 0.5318 | 0.4444 | 0.5464 |
| 7 | 0.4534 | 0.4342 | 0.4010 | 0.4326 | 0.4801 | 0.4839 | 0.4106 | 0.4643 |
| 8 | 0.5440 | 0.5337 | 0.5374 | 0.5253 | 0.5349 | 0.5490 | 0.4785 | 0.5517 |
| 9 | 0.4541 | 0.4348 | 0.4399 | 0.4349 | 0.4432 | 0.5775 | 0.4512 | 0.5017 |
| 10 | 0.5024 | 0.4671 | 0.4111 | 0.4941 | 0.3814 | 0.4350 | 0.4354 | 0.5200 |
| 11 | 0.4818 | 0.4096 | 0.4271 | 0.4530 | 0.4038 | 0.3736 | 0.4218 | 0.4700 |
| 12 | 0.2631 | 0.2463 | 0.2784 | 0.2466 | 0.3333 | 0.3037 | 0.3561 | 0.2507 |
| 13 | 0.4161 | 0.4243 | 0.4237 | 0.3966 | 0.4447 | 0.5768 | 0.4976 | 0.4924 |
| 14 | 0.3303 | 0.3622 | 0.3721 | 0.3269 | 0.4038 | 0.5275 | 0.4380 | 0.4219 |
| 15 | 0.3748 | 0.3524 | 0.2878 | 0.3640 | 0.3097 | 0.3834 | 0.3447 | 0.3903 |
| 16 | 0.3565 | 0.3137 | 0.3042 | 0.3434 | 0.3724 | 0.3870 | 0.2767 | 0.3105 |
| 17 | 0.4641 | 0.4002 | 0.4139 | 0.4228 | 0.4341 | 0.4171 | 0.4286 | 0.4844 |
| 18 | 0.4688 | 0.4653 | 0.4263 | 0.4512 | 0.4603 | 0.5278 | 0.4824 | 0.4891 |
| 19 | 0.5429 | 0.5243 | 0.4456 | 0.5234 | 0.5082 | 0.6681 | 0.6225 | 0.5613 |
| 20 | 0.4061 | 0.3931 | 0.4318 | 0.3970 | 0.4476 | 0.4134 | 0.3606 | 0.3832 |
| 21 | 0.4715 | 0.4463 | 0.4500 | 0.4587 | 0.4172 | 0.5512 | 0.4693 | 0.4662 |
| 22 | 0.4100 | 0.3259 | 0.3456 | 0.3635 | 0.2870 | 0.5220 | 0.3460 | 0.3762 |
| 23 | 0.4259 | 0.4064 | 0.3868 | 0.4079 | 0.4338 | 0.4537 | 0.3815 | 0.4153 |
| 24 | 0.4456 | 0.4070 | 0.3996 | 0.3738 | 0.4070 | 0.3892 | 0.4858 | 0.5073 |
| 25 | 0.4120 | 0.4161 | 0.3842 | 0.4007 | 0.4469 | 0.4240 | 0.4167 | 0.4494 |
| 26 | 0.4286 | 0.4167 | 0.3896 | 0.4081 | 0.3974 | 0.3767 | 0.3926 | 0.4097 |
| 27 | 0.4343 | 0.4026 | 0.4331 | 0.4066 | 0.5163 | 0.4375 | 0.4132 | 0.4717 |
| 28 | 0.4504 | 0.4365 | 0.4434 | 0.3978 | 0.5202 | 0.5056 | 0.4560 | 0.4924 |
| 29 | 0.5582 | 0.5408 | 0.4956 | 0.5354 | 0.5536 | 0.6374 | 0.5692 | 0.5323 |
| 30 | 0.4379 | 0.4084 | 0.3379 | 0.4199 | 0.3868 | 0.3520 | 0.2907 | 0.4222 |
| 31 | 0.4739 | 0.4659 | 0.4533 | 0.4657 | 0.4305 | 0.4501 | 0.5130 | 0.4477 |
| 32 | 0.5396 | 0.4987 | 0.5020 | 0.5118 | 0.5306 | 0.6608 | 0.5177 | 0.4839 |
| 33 | 0.4622 | 0.4233 | 0.4346 | 0.4390 | 0.4969 | 0.5167 | 0.4082 | 0.4831 |
| 34 | 0.2509 | 0.2529 | 0.0955 | 0.2713 | 0.1981 | 0.1938 | 0.1900 | 0.1965 |

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## Table 23

**R-Biserials by Subgroup for Logical Reasoning**

| Item | Gender | | Ethnic Subgroup | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Black | White | Hispanic | Puerto Rican | Mexican American | Asian |
| 1 | 0.2572 | 0.2651 | 0.2986 | 0.2448 | 0.2424 | 0.4315 | 0.3101 | 0.2793 |
| 2 | 0.4024 | 0.3892 | 0.4056 | 0.3798 | 0.3350 | 0.4366 | 0.4128 | 0.4089 |
| 3 | 0.4330 | 0.4386 | 0.4417 | 0.4044 | 0.4873 | 0.4715 | 0.3923 | 0.5118 |
| 4 | 0.3301 | 0.3654 | 0.4078 | 0.3230 | 0.3590 | 0.3704 | 0.3425 | 0.3390 |
| 5 | 0.4639 | 0.5007 | 0.5224 | 0.4476 | 0.5568 | 0.4519 | 0.5619 | 0.5496 |
| 6 | 0.5278 | 0.4907 | 0.4393 | 0.4958 | 0.4977 | 0.4458 | 0.4368 | 0.5490 |
| 7 | 0.4184 | 0.3970 | 0.3546 | 0.3889 | 0.4220 | 0.5661 | 0.4428 | 0.3898 |
| 8 | 0.5574 | 0.5682 | 0.5041 | 0.5519 | 0.5529 | 0.5090 | 0.4867 | 0.6068 |
| 9 | 0.3629 | 0.3434 | 0.3605 | 0.3181 | 0.4198 | 0.4958 | 0.3612 | 0.4226 |
| 10 | 0.4239 | 0.3983 | 0.4487 | 0.3718 | 0.3548 | 0.6047 | 0.4823 | 0.4997 |
| 11 | 0.5335 | 0.5138 | 0.5090 | 0.4772 | 0.5386 | 0.6853 | 0.5278 | 0.5744 |
| 12 | 0.4622 | 0.4804 | 0.4653 | 0.4417 | 0.4472 | 0.5744 | 0.5150 | 0.4929 |
| 13 | 0.6464 | 0.6387 | 0.6202 | 0.6210 | 0.6540 | 0.6000 | 0.6039 | 0.6746 |
| 14 | 0.3945 | 0.3614 | 0.3388 | 0.3701 | 0.3487 | 0.4442 | 0.4593 | 0.4264 |
| 15 | 0.3691 | 0.3801 | 0.3376 | 0.3749 | 0.4334 | 0.3464 | 0.4146 | 0.3700 |
| 16 | 0.5926 | 0.5876 | 0.5347 | 0.5622 | 0.5417 | 0.6432 | 0.5087 | 0.6320 |
| 17 | 0.4731 | 0.5007 | 0.4758 | 0.4690 | 0.5080 | 0.5512 | 0.4032 | 0.5705 |
| 18 | 0.2276 | 0.2244 | 0.2571 | 0.2326 | 0.2154 | 0.1758 | 0.2102 | 0.2568 |
| 19 | 0.4653 | 0.4438 | 0.4081 | 0.4489 | 0.3954 | 0.3281 | 0.4345 | 0.4552 |
| 20 | 0.2970 | 0.2538 | 0.2526 | 0.2778 | 0.2838 | 0.2653 | 0.2785 | 0.3586 |
| 21 | 0.4566 | 0.4154 | 0.4030 | 0.4427 | 0.4152 | 0.3193 | 0.4094 | 0.4553 |
| 22 | 0.3904 | 0.3723 | 0.3539 | 0.3780 | 0.2989 | 0.4430 | 0.3575 | 0.3789 |
| 23 | 0.3925 | 0.4073 | 0.2924 | 0.3954 | 0.3916 | 0.4139 | 0.2283 | 0.4035 |
| 24 | 0.4469 | 0.4334 | 0.4825 | 0.4259 | 0.4870 | 0.6063 | 0.4893 | 0.4630 |
| 25 | 0.4410 | 0.4264 | 0.4081 | 0.4218 | 0.4459 | 0.6148 | 0.4496 | 0.4567 |
| 26 | 0.3783 | 0.3921 | 0.3934 | 0.3639 | 0.4656 | 0.4641 | 0.3749 | 0.4295 |
| 27 | 0.4567 | 0.4297 | 0.4220 | 0.4238 | 0.4881 | 0.3492 | 0.4430 | 0.4807 |
| 28 | 0.6811 | 0.6612 | 0.6373 | 0.6387 | 0.6800 | 0.7106 | 0.6598 | 0.7048 |
| 29 | 0.4115 | 0.3919 | 0.3830 | 0.3746 | 0.4466 | 0.5731 | 0.3653 | 0.3831 |
| 30 | 0.6698 | 0.6400 | 0.6247 | 0.6348 | 0.6682 | 0.7224 | 0.5686 | 0.6690 |
| 31 | 0.5226 | 0.5398 | 0.4707 | 0.5197 | 0.5221 | 0.4855 | 0.5669 | 0.5167 |
| 32 | 0.4469 | 0.4294 | 0.3600 | 0.4390 | 0.4222 | 0.3406 | 0.4380 | 0.4263 |
| 33 | 0.5114 | 0.4969 | 0.3190 | 0.5170 | 0.4313 | 0.2965 | 0.4734 | 0.4864 |

## Summary and Discussion

This study was undertaken to develop baseline comparative test performance data among selected subgroups. A detailed analysis of a single test form, Form OLSS1 administered in September 1989, was conducted. Among the September 1989 test takers, several clear performance patterns emerge.

There is a small difference between male and female performance. This difference generally is uncharacteristic of male/female LSAT performance and seems to be primarily attributable to slightly better performance by males on the Reading Comprehension section on the form studied for this report.

Caucasian test takers earn higher scores on the total test than do members of any other ethnic subgroup. Asian American test takers outperform Caucasians on the Analytical Reasoning section, but Caucasians outperform all other subgroups on every other section. Black/Afro-Americans earn the lowest mean score on the total test and on each of the sections. Among the three item types, Analytical Reasoning is the most difficult for them and Logical Reasoning is the easiest. In general, reliability estimates are consistent for each of the subgroups. The standard errors of measurement for the Analytical Reasoning section and the Logical Reasoning section are somewhat larger for Black/Afro-American test takers than for Caucasians, suggesting that these sections might be slightly more accurate for Caucasian takers than for blacks.

Each section appears to be moderately speeded for Black/Afro-American test takers. There is some evidence of speededness in the final items of each section for other subgroups. Speededness data are typically determined as a function of the number of items not reached. The analyses in this report also demonstrate that minority test takers, particularly blacks and Puerto Ricans, omit a larger number of items than do their Caucasian peers.

Two item characteristics are examined separately by subgroup-item difficulty and item discrimination. The results of item difficulty analyses are consistent with the performance data. That is, the individual items are fairly consistently easier for Caucasian test takers than for test takers from other ethnic subgroups. More importantly, examination of data for evidence of differential difficulty for some items, a possible indicator of biased or unfair items, does not identify problem items. The correlations between difficulty estimates based on the Caucasian test takers and difficulty indices based on each of the other subgroups separately are quite high, suggesting a strong linear relationship.

Biserial correlations by subgroup are examined but these data add little information to that already provided through the standard deviations and reliability data. The r-biserials are generally lower for Blacks/Afro-Americans and Hispanics, primarily as a consequence of the lower variability among Caucasians.

## Conclusions

Overall, the data in this report confirm the poorer performance of minority LSAT takers when compared with Caucasian test takers and confirm fairly equal performance by male and female test takers. More importantly, data are presented to allow evaluation of subgroup performance section by section and item by item. Test takers from subgroups are individually compared with Caucasian test takers. In general, individual questions consistently are more difficult for minority test takers, and minority test takers perform less well on each of the sections, with some exceptions for Asian Americans, as noted in the report. There is no evidence that any one item type particularly disadvantages minority test takers nor are there individual items that exhibit statistical evidence of bias toward any subgroup.

There is evidence that minority test takers not only find the test slightly speeded and fail to complete the last few items in each section, but they tend to omit more items throughout the section. This is an area that requires further investigation, particularly as it might relate to differences in test-taking skills.

The data in this report are all based on aggregate statistics. Further work to analyze minority test performance should match test takers on some criterion, such as undergraduate grade-point average or test score, before comparing performance. Since we know that a disproportionate number of Black/Afro-American and Puerto Rican test takers earn the minimum score of 10, it also would be informative to investigate the impact of removing test takers with scores of 10 from the samples before comparisons are made.

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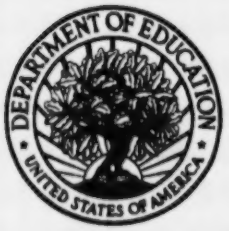


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